PCET's Pimpri Chinchwad College of Engineering and Research, Ravet, Pune

Publication Booklet

(A.Y. 2023-24)

Research and Development Cell, PCCOER, Ravet, Pune

Index

Summary of Publication

Department-wise Summary of publications (A.Y. 2023-24)

Sr. No.	Department	Publications				
		Journal	Conference	Book Chapter	Books	Total
1	Applied Science	9	-	2	-	11
2	Civil Engineering	18	5	-	7	30
3	Computer Engineering	27	19	3	2	51
4	Electronics and Telecommunication	17	1	-	1	19
5	Information Technology	5	-	-	-	5
6	Mechanical Engineering	6	2	-	-	8
Total Publications		**82**	**27**	**05**	**10**	**124**

Summary of Publications

Journal Paper Indexing	
WoS (SCI/ESCI/SCIE)	**08**
Scopus	**48**
UGCCare	**11**
Conference Paper	
National Conference	**-**
International Conference	**27**
Scopus-Indexed Conference	**27**

List of Journal Publications 2023-24

Sr. No.	Paper ID	Department	Title of Article	Author(s)	Journal Name	Volume	Pages	Issue	DOI	Indexing
1.	JP202324_AS_01	Department of Applied Sciences and Humanities	Structural, morphological and magnetic properties of functionalized manganese iron oxide nanoparticles for biological applications	Ghute Patil P.,Oghe P.	Suranaree Journal of Science and Technology	31	-	4	10.55766/SUJST-2024-04-E03952	Scopus
2.	JP202324_AS_02	Department of Applied Sciences and Humanities	Applications of the Domination and Fractional Domination in Computational Biology using LPP Formulation	Mahesh Sarada, Rekha Jain, and Ganesh Mundhe.	African Journal of Biological Sciences	6	4340-4358	5	doi: 10.33472/AFJBS.6.5.2024. 4340-4358	Scopus
3.	JP202324_AS_03	Department of Applied Sciences and Humanities	Establishing system for an Alumni Engagement and On-Campus Company Insights	Mrs. Tejaswini Gavhane	International Research Journal of Engineering and Technology	11	101-104	4	https://www.irjet.net/archives/V11/i5/IRJET-V11I517	UGC
4.	JP202324_AS_04	Department of Applied Sciences and Humanities	Sentiment Analysis in Financial Markets	Mrs. Tejaswini Gavhane	International Journal of Innovative Science and Research Technology	9	83-88	2	https://doi.org/10.5281/zenodo.10643367	UGC
5.	JP202324_AS_05	Department of Applied Sciences and Humanities	Experimental investigation on utilization of crushed solar panel waste as sand replacement in concrete	Sarita Zele, Amrut Joshi, Nivedita Gogate, Deepti Marathe, Amar Shitole	Solar Energy (Elsevier)	269	112338	-	10.1016/j.solener.2024.112338	Scopus
6.	JP202324_AS_06	Department of Applied Sciences and Humanities	Certain Analytical Aspects of Power Systems in the Presence of Facts Controllers - SVC and TCSC	Amita Mane, Shamik Chatterjee, Amol Kalage	International Journal of Engineering Trends and Technology	71	394-405	7	10.14445/22315381/IJETT-V71I7P238	Scopus
7.	JP202324_AS_07	Department of Applied Sciences and Humanities	A Review On Certainity Of Load Monitoring and Analysis for Home Automation	Deepshikha Shrivastava	Industrial Engineering Journal	52	-	2	http://www.journal-iiie-india.com/1_feb_23.html	UGC

8.	JP202324_AS_08	Department of Applied Sciences and Humanities	Use of Elliptic Curve Cryptography Model for Images Analysis and Stenographic Modelling	Gajanan Rajaram Jadhav, Dr. Vinod Kumar	International Journal of Advanced Multidiscplinary Scientific Research	6	40-47	6	https://doi.org/10.31426/ijamsr.2023.6.6.6416	UGC
9.	JP202324_AS_09	Department of Applied Sciences and Humanities	Bounds for Fractional Domination Number of Some Graphs and their Dual Graphs	Mahesh Sarada, Rekha Jain, and Ganesh Mundhe.	Indian Journal of Natural Sciences	14	61661-61670	80	NA	WOS
10.	JP202324_CI_01	Department of Civil Engineering	Slope Stability Analysis of Xanthan Gum Biopolymer Treated Laterite Soil Using Plaxis Limit Equilibrium Method (PLAXIS LE)	Banne S.P.;Dhawale A.W.;Patil R.B.;Girase M.;Kulkarni C.;Dake M.;Khan S.	Ksce Journal of Civil Engineering	28	1205-1216	4	10.1007/s12205-024-0553-2	Scopus
11.	JP202324_CI_02	Department of Civil Engineering	Innovative Use of Eco-Enzymes for Domestic Wastewater Purification	Salvi S.,Sabale R.;Bobade S.;Dhawale A.	Journal of Environmental Nanotechnology	13	435-439	3	10.13074/jent.2024.09.242771	Scopus
12.	JP202324_CI_03	Department of Civil Engineering	Application of Arc-SWAT Model for Water Budgeting and Water Resource Planning at the Yeralwadi Catchment of Khatav, India	Sabale R.S.;Bobade S.S.;Venkatesh B.;Jose M.K.	Nature Environment and Pollution Technology	23	203-213	1	10.46488/NEPT.2024.v23i01.016	Scopus
13.	JP202324_CI_04	Department of Civil Engineering	A REVIEW ON INVESTIGATION STUDY ON BAMBOO AS REINFORCEMENT MATERIAL	Satish A. Pitake	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	12	373-380	5	-	NA
14.	JP202324_CI_05	Department of Civil Engineering	Comparative Study Of Natural Coagulants For Dairy Effluent Treatment	Kunal Taksande, Omkar Mangule , Omkar Singapure , Abhijeet Kawanpure , Rahul S. Patil ,	International Journal of Creative Research Thoughts (IJCRT)	12	765-774	5	-	NA
15.	JP202324_CI_06	Department of Civil Engineering	Reinforcing Resilience- Enhancing Flexural and Compressive Strength using SFRC	Akshay Rahane	International research journal in modernization in engineering technology and science	6		6	-	NA

16.	JP202324_CI_07	Department of Civil Engineering	Enhancement of properties of laterite soil used as subgrade using xanthan gum biopolymer	Banne S.;Dhawale A.;Kulkarni S.;Muthekar V.;Onyelowe K.	Multiscale and Multidisciplinary Modeling Experiments and Design	6	333-345	3	10.1007/s41939-023-00149-w	Scopus
17.	JP202324_CI_08	Department of Civil Engineering	A Fibre Based Waste Fishnet Sheet Replacement with Asbestos	Dr. Sahil Salvi,Mr. Yogesh Pawar, Prof. Jayant Patil	European Chemical Bulletin	5	2666-2670	5	10.48047/ecb/2023.12.si5.259	NA
18.	JP202324_CI_09	Department of Civil Engineering	Experimental Investigation on Water Treated Sludge	Mr. Sahil Salvi, Dr. Vivek Choudhary	European Chemical Bulletin	5	2653-2665	5	10.48047/ecb/2023.12.si5.260	NA
19.	JP202324_CI_10	Department of Civil Engineering	Morphometric Analysis of Sina River Basin at Midsangvi using RS and GIS	Dr. Sahil Salvi,Dr. Sudarshan Bobade	European Chemical Bulletin	5	2630-2652	5	10.48047/ecb/2023.12.si5.261	NA
20.	JP202324_CI_11	Department of Civil Engineering	Impact of variations in geotechnical properties of backfill material on the serviceability of cantilever earth retaining structures: a case study	Dr. Sudarshan S. Bobade, Dr. Sahil S. Salvi, Dr. Atul P. Khatri, Dr. Arun W. Dhawale, Mr. Nilesh S. Pawar	European Chemical Bulletin	5	2809-2826		10.48047/ecb/2023.12.si5.276	NA
21.	JP202324_CI_12	Department of Civil Engineering	Thermal Stress Analysis of Laminated Beams under Plane Stress Condition of Elasticity	Sandeep Pendhari, Sameer Sawarkar	International Journal of Creative Research Thoughts	-	-	-	-	NA
22.	JP202324_CI_13	Department of Civil Engineering	Static Analysis of Smart Laminates by Semi-analytical Approach	Sameer Sawarkar, Sandeep Pendhari	International Journal of All Research Education & Scientific Methods	-	-	-	-	NA
23.	JP202324_CI_14	Department of Civil Engineering	Static Analysis of Multilayered Smart Laminates in Cylindrical Bending	Sameer Sawarkar, Sandeep Pendhari	International Journal of Creative Research Thoughts	-	-	-	-	NA
24.	JP202324_CI_15	Department of Civil Engineering	Experimental Investigation On Magnetic Concrete for Wireless Charging	Akshay Rahane, Mansi Deshmukh, Kalyani Patil, Vishkaha Desale	PCCOER-UGCON	1	-	-	-	NA
25.	JP202324_CI_16	Department of Civil Engineering	Experimental Investigation of Blocks Using Flyash and Iron Dust	Akshay Rahane	PCCOER-UGCON	1	-	-	-	-

26.	JP202324_CI_17	Department of Civil Engineering	Experimental Investigation for Serviceability of Ferrocrete Slab	Akshay Rahane	GIS Science Journal	10	778	3	-	-
27.	JP202324_CI_18	Department of Civil Engineering	Traffic congestion charging and implementation issues	Dr. Dinesh S. Aswar, Dr. Sachin D. Khandekar , Dr. Arun W. Dhawale, Dr. Supriya K. Nalawade	European Chemical Bulletin	11	1948-1956	-	10.48047/ecb/2022.11.12.170	NA
28.	JP202324_CO_01	Department of Computer Engineering	Bi-GRU-APSO: Bi-Directional Gated Recurrent Unit with Adaptive Particle Swarm Optimization Algorithm for Sales Forecasting in Multi-Channel Retail	Mogarala Guruvaya A.;Kollu A.;Divakarachari P.B.;Falkowski-Gilski P.;Praveena H.D.	Telecom	5	537-555	3	10.3390/telecom5030028	Scopus,
29.	JP202324_CO_02	Department of Computer Engineering	An Improved Multi-objective Optimization Framework with a Hybrid Model for Vehicular Adhoc Network Routing Services	Badole M.;Thakare A.;Oliva D.	Wireless Personal Communications	138	28-Jan	1	10.1007/s11277-024-11245-6	Scopus
30.	JP202324_CO_03	Department of Computer Engineering	Strengthening Sentence Similarity Identification Through OpenAI Embeddings and Deep Learning	Korade N.B.;Salunke M.B.;Bhosle A.A.;Kumbharkar P.B.;Asalkar G.G.;Khedkar R.G.	International Journal of Advanced Computer Science and Applications	15	821-829	4	10.14569/IJACSA.2024.0150485	Scopus
31.	JP202324_CO_04	Department of Computer Engineering	Cutting-Edge Neural Network for Early Cardiovascular Disease Prevention	Udhan Shivganga.;Patil Bankat.	International Journal of Intelligent Systems and Applications in Engineering	12	16-May	3s	https://ijisae.org/index.php/IJISAE/article/view/3657	Scopus
32.	JP202324_CO_05	Department of Computer Engineering	Optimizing Data Extraction using Preprocessing for Enhanced Efficiency	Chobe S.V.;Nikam S.	Advances in Nonlinear Variational Inequalities	27	793-805	3		Scopus
33.	JP202324_CO_06	Department of Computer Engineering	Evaluation of the extent and demanding roles of ethical hacking in cybersecurity	Kumar J.R.R.;Bhalke D.G.;Nikam S.;Chobe S.;Khidse S.;Kale K.	Journal of Autonomous Intelligence	7	-	1	10.32629/jai.v7i1.1246	Scopus
34.	JP202324_CO_07	Department of Computer Engineering	The Impact of Quantum Computing on Cryptographic Security Protocols	Dixit S.;Shirode U.R.;Chobe S.V.;Nikam	Advances in Nonlinear Variational	27	558-570	3	10.52783/anvi.v27.1419	Scopus

				Swati.;Bhise Y.D.	Inequalities					
35.	JP202324_CO_08	Department of Computer Engineering	An IoT enabled healthcare framework for arrhythmia detection based on Qos aware trust aided osprey routing protocol and ensemble learning	Kotkar V.A.;Golande A.L.;Deshpande K.V.;Shahade M.;Bhutnal V.H.	Multimedia Tools and Applications	83	55235-55257	18	10.1007/s11042-023-17773-w	Scopus
36.	JP202324_CO_09	Department of Computer Engineering	A Review of Techniques and Applications for Machine Learning and Deep Learning	Mahajan, Yogeshwari , Patil, R. , Pattanaik, S. , ... Damre, S.S. , Uplaonkar, D.	International Journal of Intelligent Systems and Applications in Engineering	Vol. 12 No. 16s (2024)	182–187	16s	/ijisae.org/index.php/IJISAE/article/view/4804	Scopus
37.	JP202324_CO_10	Department of Computer Engineering	Quantum-inspired adaptive loss detection and real-time image restoration for live optical quantum image transmission	Yogeshwari Mahajan, Priyanka, TP Reji, R Narla, VL Selvakumarasamy, K	Optical and quantum electronics	56	411	3	DOI 10.1007/s11082-023-05859-6	Scopus, WOS
38.	JP202324_CO_11	Department of Computer Engineering	Detection of dental periapical lesions using retinex based image enhancement and lightweight deep learning model	Latke V.;Narawade V.	Image and Vision Computing	146	-	-	10.1016/j.imavis.2024.105016	Scopus
39.	JP202324_CO_12	Department of Computer Engineering	Establishing system for an Alumni Engagement and On-Campus Company Insights	Jitesh Kawal, Gaurav Sonavane, Swastik Ghonsikar, Nikita Badhekar, Prof. Tejaswini Gavhane	International Research Journal of Engineering and Technology (IRJET)	Volume: 11 Issue: 04 | May 2024	101-104	4	-	UGC
40.	JP202324_CO_13	Department of Computer Engineering	Sentiment Analysis in Financial Markets	Ashwini K. Bhavsar; Tejaswini H. Gavhane	International Journal of Innovative Science and Research Technology (IJISRT)	Volume 9, Issue 2, February 2024	83-88	2	-	UGC
41.	JP202324_CO_14	Department of Computer Engineering	Application to Help the Visually Impaired By Converting Images to Audio Descriptions	Mr. Shubham Shejwal, Mr. Abhishek Jadhav, Mrs. Deepa Mahajan, Mr. Abhay Rajput	International Journal of Scientific Research in Science, Engineering and Technology Print ISSN - 2395-199	11		7	ISSN - 2395-1990	NO

42.	JP202324_CO_15	Department of Computer Engineering	Distinct Word Sense Disambiguation Approaches for Marathi Language	Kumbhar M.;Thakre K.	INDIAN JOURNAL OF TECHNICAL EDUCATION Spl Issue Jan 2024	47	65-68	Special Issue		UGC
43.	JP202324_CO_16	Department of Computer Engineering	Language Identification and Transliteration approaches for Code-Mixed Text	Kumbhar M.;Thakre K.	Journal of Engineering Science and Technology Review	17	63-70	1	10.25103/jestr.171.09	Scopus
44.	JP202324_CO_17	Department of Computer Engineering	Data Acquisition system for Vehicle using IoT based devices	Mrs. Priyadarshani Doke	Mukt Shabd Journal UGC Care Journal 2024	13	1629-1636	4	10.0014.MSJ.2024.V13I4.0086781.2154	UGC
45.	JP202324_CO_18	Department of Computer Engineering	Techniques for Safe Data Sharing and Storage in Cloud Environment to Protect Data	Mrs. Priyadarshani Doke	Mukt Shabd Journal UGC Care Journal 2024	13	1860-1869	4	10.0014.MSJ.2024.V13I4.0086781.2182	UGC
46.	JP202324_CO_19	Department of Computer Engineering	Diagnosis of Heart Disease using Fuzzy Logic	Rachana Mudholkar, Harshada Chaudhari, Mansi Kulkarni, Yashshree Jangale	Journal of Xidian University	18	1312-1319		Doi.10.37896/jxu18.5/127	NO
47.	JP202324_CO_20	Department of Computer Engineering	Decentralization of Identity using Ethereum and IPFS	Lohar S.;Babar S.D.;Mahalle P.N.	Communications on Applied Nonlinear Analysis	31	378-391	4s	10.52783/cana.v31.917	Scopus
48.	JP202324_CO_21	Department of Computer Engineering	Energy-efficient resource allocation over wireless communication systems through deep reinforcement learning	Shukla K.;Kollu A.;Panwar P.;Soni M.;Jindal L.;Patel H.;Keshta I.;Maaliw R.R.	International Journal of Communication Systems	37	e5589	15	https://doi.org/10.1002/dac.5589	Scopus, WOS, UGC
49.	JP202324_CO_22	Department of Computer Engineering	Enhancing Endodontic Precision: A Novel AI-Powered Hybrid Ensemble Approach for Refining Treatment Strategies	Latke V.;Narawade V.	International Journal of Intelligent Systems and Applications in Engineering	11	73-84	11	-	Scopus
50.	JP202324_CO_23	Department of Computer Engineering	Student Engagement Monitoring in Online Learning Environment	Yogeshwari V. Mahajan,Pinjarkar V.U.;Pinjarkar U.S.	International Journal of Intelligent Systems and Applications in Engineering	12	292-298	1	-	Scopus

51.	JP202324_CO_24	Department of Computer Engineering	Enhanced Phishing Website Detection :Leveraging Random Forest and XG Boost Algorithms with Hybrid features	Ashwini Bhavsar	International Journal of Innovative Science and Research Technology	8	615-618	7	ISSN NO : - 2456-2165	NO
52.	JP202324_CO_25	Department of Computer Engineering	Innovations in Computational Approaches for Nonlinear Problems and Complex System Simulations	Shritika Waykar, Tejaswini Patil	Communications on Applied Nonlinear Analysis	31	34-51	-	-	-
53.	JP202324_CO_26	Department of Computer Engineering	Resume Screener Using Machine Learning	Ashwin Praveen Khairnar , Shubham Ganpat Khupase , Prashik Vikas Agale , Yash Shankarrao Veer, Sonali Lunawat	IJCRT	-	-	-	-	NO
54.	JP202324_CO_27	Department of Computer Engineering	Suppressing the Spread of Fake News Over the Social Web of Things: An Influence Maximization-Based Supervised Approach	Nabamita Deb ., Archana Kollu ., Ali Alferaidi ., Lulwah M. Alkwai ., Pankaj Kumar .,	IEEE Systems, Man, and Cybernetics Magazine	9	20-25	4	10.1109/MSMC.2023.3276575	Scopus
55.	JP202324_ETC_1	Department of Electronics and Telecommunication Engineering	Speech emotion recognition for human–computer interaction	Thiripurasundari D.;Bhangale K.;Aashritha V.;Mondreti S.;Kothandaraman M.	International Journal of Speech Technology	27	817-830	3	10.1007/s10772-024-10138-0	Scopus
56.	JP202324_ETC_2	Department of Electronics and Telecommunication Engineering	Speech Emotion Recognition Using Generative Adversarial Network and Deep Convolutional Neural Network	Bhangale K.;Kothandaraman M.	Circuits Systems and Signal Processing	43	2341-2384	4	10.1007/s00034-023-02562-5	Scopus
57.	JP202324_ETC_3	Department of Electronics and Telecommunication Engineering	Adam teaching learning optimization enabled LeNet for autism spectrum disorder detection using brain MRI	Dhamale T.D.;Bhandari S.U.	Biomedical Signal Processing and Control	90	-	-	10.1016/j.bspc.2023.105864	Scopus

58.	JP202324_ETC_4	Department of Electronics and Telecommunication Engineering	Dielectric modulated organic thin film transistor trench biosensor for label-free detection: Modeling and simulation analysis	Bhandari S.;Dhamale T.D.;Kawade R.K.;Dhake D.N.;Wadhwa G.	International Journal of Numerical Modelling Electronic Networks Devices and Fields	37	-	2	10.1002/jnm.3186	Scopus
59.	JP202324_ETC_5	Department of Electronics and Telecommunication Engineering	Optimal trained ensemble of classification model for speech emotion recognition: Considering cross-lingual and multilingual scenarios	Kawade R.R.;Jagtap S.K.	Multimedia Tools and Applications	83	54331-54365	18	10.1007/s11042-023-17097-9	Scopus
60.	JP202324_ETC_6	Department of Electronics and Telecommunication Engineering	Implemented OBL-DE assisted Tasmanian devil optimisation for selecting the optimal features using EEG signal for stress detection	Dhake D.N.;Angal Y.S.	International Journal of Ad Hoc and Ubiquitous Computing	47	240-257	4	10.1504/IJAHUC.2024.142712	Scopus
61.	JP202324_ETC_7	Department of Electronics and Telecommunication Engineering	Smart river cleaning bot	Dr. Dipali Shende	Dogo Rangsang Research Journal	13	148-155		NA	N
62.	JP202324_ETC_8	Department of Electronics and Telecommunication Engineering	Performance evaluation and comparative analysis of CrowWhale-energy and trust aware multicast routing algorithm	Shende D.K.;Angal Y.S.	Web Intelligence	21	271-291	3	10.3233/WEB-220063	Scopus
63.	JP202324_ETC_9	Department of Electronics and Telecommunication Engineering	Speech emotion recognition based on multiple acoustic features and deep convolutional neural network	Bhangale, Kishor and Kothandaraman, Mohanaprasad	Electronics	12	839		-	Scopus, WOS
64.	JP202324_ETC_10	Department of Electronics and Telecommunication Engineering	Speech emotion recognition using the novel PEmoNet (Parallel Emotion Network)	Bhangale K.B.;Kothandaraman M.	Applied Acoustics	212	-	-	10.1016/j.apacoust.2023.109613	Scopus
65.	JP202324_ETC_11	Department of Electronics and Telecommunication Engineering	Comprehensive Study of Automatic Speech Emotion Recognition Systems	Kawade R.;Jagtap S.	International Journal on Recent and Innovation Trends in	11	709-717	9s	10.17762/ijritcc.v11i9s.7743	Scopus

					Computing and Communication					
66.	JP202324_ETC_12	Department of Electronics and Telecommunication Engineering	Liver segmentation using marker controlled watershed transform.	KM Napte, A Mahajan	International Journal of Electrical & Computer Engineering	13	1541-1550	2	DOI: 10.11591/ijece.v13i2.pp1541-1549	Scopus
67.	JP202324_ETC_13	Department of Electronics and Telecommunication Engineering	ESP-UNet: Encoder-Decoder Convolutional Neural Network with Edge-Enhanced Features for Liver Segmentation.	K Napte, A Mahajan, S Urooj	Traitement du Signal	40	2275-2281	5	https://doi.org/10.18280/ts.400545	Scopus,WOS
68.	JP202324_ETC_14	Department of Electronics and Telecommunication Engineering	Automatic Liver Cancer Detection Using Deep Convolution Neural Network	KM Napte, A Mahajan, S Urooj	IEEE Access	11	94852 - 94862	11	10.1109/ACCESS.2023.3307640	Scopus, WOS
69.	JP202324_ETC_15	Department of Electronics and Telecommunication Engineering	A Comparative Analysis of EEG-based Stress Detection Utilizing Machine Learning and Deep Learning Classifiers with a Critical Literature Review	Dipali Dhake ., Yogesh Angal .,	11	8s	61-73	61-73	10.17762/ijritcc.v11i8s.7175	N
70.	JP202324_ETC_16	Department of Electronics and Telecommunication Engineering	Semi-supervised gan for medical image segmentation	Adke P.;Adke G.;Patil S.;Bhavsar D.;Mane A.	Arpn Journal of Engineering and Applied Sciences	18	2532-2539	22	10.59018/1123305	Scopus
71.	JP202324_ETC_17	Department of Electronics and Telecommunication Engineering	A Comparative Analysis of FinFET Based SRAM Design	Vijayalaxmi Kumbar and Manisha Waje	International Journal of Electrical and Electronics Research (IJEER)	10	1191-1198	4	https://doi.org/10.37391/IJEER.100468	N
72.	JP202324_IT_1	Department of Information Technology	Optimizing Data Extraction using Preprocessing for Enhanced Efficiency	Chobe S.V.;Nikam S.	Advances in Nonlinear Variational Inequalities	27	793-805	3		Scopus
73.	JP202324_IT_2	Department of Information Technology	Evaluation of the extent and demanding roles of ethical hacking in cybersecurity	Kumar J.R.R.;Bhalke D.G.;Nikam S.;Chobe S.	Journal of Autonomous Intelligence	7	-	1	10.32629/jai.v7i1.1246	Scopus
74.	JP202324_IT_3	Department of Information	The Impact of Quantum Computing on Cryptographic Security Protocols	Dixit S.;Shirode U.R.;Chobe	Advances in Nonlinear	27	558-570	3	10.52783/anvi.v27.1419	Scopus

		Technology		S.V.;Nikam S.;Bhise Y.D.	Variational Inequalities					
75.	JP202324_IT_4	Department of Information Technology	Harnessing AI for Strategic Decision-Making and Business Performance Optimization	Gupta K.;Mane P.;Rajankar O.S.;Chobe S.V.	International Journal of Intelligent Systems and Applications in Engineering	11	893-912	10s	-	Scopus
76.	JP202324_IT_5	Department of Information Technology	Introduction of machine learning with applications to communication system	Kumar J.R.;Chobe S.;Nikam S.;Zanwar S.;Borawake M.;Hirolikar D.	Journal of Autonomous Intelligence	6	-	3	10.32629/jai.v6i3.1244	Scopus
77.	JP202324_ME_1	Department of Mechanical Engineering	Navigating Escalation Patterns in Road Construction Projects in Maharashtra	Chaudhari R.S.;Siraskar G.;Sarode G.C.;Shirode	Panamerican Mathematical Journal	34	586-596	4	10.52783/pmj.v34.i4.2027	Scopus
78.	JP202324_ME_2	Department of Mechanical Engineering	An Experimental Investigation of Surface Roughness And Cutting Forces On GFRP	Bagade A.A.;Chavali S.;Charkha P.;Mahajan K.A.;Patil P.;Siraskar G	Panamerican Mathematical Journal	34	160-167	3	10.52783/pmj.v34.i3.1782	Scopus
79.	JP202324_ME_3	Department of Mechanical Engineering	Design and Control of Modular Compliant XY Positioning stage	Dhande K.K.;Mahobia V.;Patil S.A.;Sancheti S.D.;Siraskar G.D	Panamerican Mathematical Journal	34	177-189	3	10.52783/pmj.v34.i3.1784	Scopus
80.	JP202324_ME_4	Department of Mechanical Engineering	Assessment of Bitumen Paver and HMP Efficiency for a Road Project	Sarode G.C.;Chaudhari R.S.;Siraskar G	Panamerican Mathematical Journal	34		3	10.52783/pmj.v34.i3.1783	Scopus
81.	JP202324_ME_5	Department of Mechanical Engineering	Experimental investigation of multi-additive fuel blend and its optimization for CI engine performance and emissions by the hybrid Taguchi- TOPSIS technique	Patil A.R.;Kakati D.;Singh B.;Rosen M.A.;Patil R.;Javanjal	Case Studies in Thermal Engineering	53	-	-	10.1016/j.csite.2023.103703	Scopus
82.	JP202324_ME_6	Department of Mechanical Engineering	Characterization and In-vitro Study of Polyethylene Glycol as Coating Material used as Drug Carriers on Coronary Stent for Treatment of Cardiac Diseases	Chopade J.V.;Hujare D.	International Journal of Drug Delivery Technology	14	955-960	2	10.25258/ijddt.14.2.53	Scopus

List of Conference Papers 2023-24

Sr. No	Paper ID	Department	Conference Paper Title	Author(s)	Conference Name	Volume	Pages	International / National	DOI	Month and Year	Location	Scopus Indexed
1.	CP202324_CI_1	Department of Civil Engineering	Effect of Xanthan Gum Biopolymer on Laterite Soil in Settlement Analysis Using Plaxis-2D	Banne S.P.,Dhawale A.W.;Patil R.B.;Kankarej S.;Naikare K.;Patil B.;Shelke S.	Lecture Notes in Mechanical Engineering	-	831-845	International	10.1007/978-981-97-3087-2_74	Feb, 2024	Mumbai, India	Scopus
2.	CP202324_CI_2	Department of Civil Engineering	Analysis of smart city environment by artificial intelligent techniques	Jayadeva S.M.;Gnanasekar A.K.;Sunagar P.;Harshith N.;Salvi S.S.;Kumar A.	Aip Conference Proceedings	2831	020010-1 - 020010-7	International	10.1063/5.0164209	Sept, 2023	Rajapalayam, India	Scopus
3.	CP202324_CI_3	Department of Civil Engineering	Earthquake Early Warning System Utilizing an CNN-LSTM-TL Based Method for Detection and Parameters Classification	Kalpanadevi D.;Siva M.;Chavan C.S.;Kaliappan S.;Jothilakshmi S.;Venkata Ramana K.	1st International Conference on Electronics Computing Communication and Control Technology Iceccc 2024	-	-	International	10.1109/ICECCC61767.2024.10592867	May, 2024	Bengaluru, India	Scopus
4.	CP202324_CI_4	Department of Civil Engineering	Statistical Analysis of Rainfall Data using non-parametric methods of Solapur District, Maharashtra, India	Chetan S. Chavan, Amar Chipade, Gopika Ghadvir, Medha Deshpande	ICSTCE 2023	405	40406	International	https://doi.org/10.1051/e3sconf/202340504046	15-16 June 2023	Pune, India	Scopus
5.	CP202324_CI_5	Department of Civil Engineering	A Review on Intelligent Transportation Systems (ITS) for Smart Cities	Anil Shirgire; V. Vasugi; Abhay Shelar; Manikanta Vangari; Subhash Gadhave; Chetan S. Chavan	2023 5th International Conference on Inventive Research in Computing Applications (ICIRCA)	-	1500-1504	International	10.1109/ICIRCA57980.2023.10220766	10-13 December 2023	IIIT, Banglore	Scopus

6.	CP202324_CO_1	Department of Computer Engineering	Crypto-Watermarking Scheme for Secure Transmission and Protection of Satellite Images	Minal Bodke,Sangita Chaudhari	2023 IEEE India Geoscience and Remote Sensing Symposium (InGARSS)	-	-	International	10.1109/InGARSS59135.2023.10490328	November 2024.	Tamilnadu, India	Scopus
7.	CP202324_CO_2	Department of Computer Engineering	IoT and Machine Learning in Agriculture: A Comparative Review of Smart Farming Solutions	Shankar P.;Thakur A.;Ansari H.;Bilal M.;Chaugule A.	Proceedings of the 5th International Conference on Data Intelligence and Cognitive Informatics Icdici 2024	-	306-310	International	10.1109/ICDICI62993.2024.10810798	2024	Hydrabad	Scopus
8.	CP202324_CO_3	Department of Computer Engineering	An Investigation of Various Machine Learning Applications to Improve Food Agriculture Sectors	Paricherla M.;Kollu A.;Bangare J.L.;Sanchez D.T.	Advancements in Science and Technology for Healthcare Agriculture and Environmental Sustainability IAC 2023	-	178-183	International	10.1201/9781032708348-28	Oct, 2024	Pune, India	Scopus
9.	CP202324_CO_4	Department of Computer Engineering	Exploring the Potential of Prompt Engineering: A Comprehensive Analysis of Interacting with Large Language Models	Pawar V.;Gawande M.;Kollu A.;Bile A.S.	2024 8th International Conference on Computing Communication Control and Automation Iccubea 2024	-	-	International	10.1109/ICCUBEA61740.2024.10775016	28-29 June 2024	Bengaluru	Scopus
10.	CP202324_CO_5	Department of Computer Engineering	To Enhance VANET Communication Services using a Metaheuristic Algorithm	Badole M.H.;Thakare A.D.	2024 IEEE International Conference on Information Technology Electronics and Intelligent Communication Systems Iciteics 2024	-	5-Jan	International	10.1109/ICITEICS61368.2024.10625345	Jan, 2024	Lalitpur, Nepal	Scopus
11.	CP202324_CO_6	Department of Computer Engineering	Design a New Approach to Calculate Calorie Count with	Latke V.;Balivada K.;Bhamare S.;Bhegade	Proceedings 2024 5th International Conference on		559-565	International	10.1109/ICMCSI61536.2024.00088	Aug, 2024	Pimari Chinchwad,	Scopus

			Machine Learning (ML) and Augmented Reality (AR)	N.;Patil S.	Mobile Computing and Sustainable Informatics Icmcsi 2024						India	
12.	CP202324_CO_7	Department of Computer Engineering	A Deep Learning Model that can Generate Abstractive Summaries for Multimedia Content such as Videos, Audio and Text to Provide Concise and Informative Descriptions	Kotkar V.;Charhate V.;Ghate S.;Moraskar A.;Gaikwad R.	2024 4th Asian Conference on Innovation in Technology Asiancon 2024	-	-	International	10.1109/ASIANCON62057.2024.10837733	23-24 August 2024	PCCOE, Pune	Scopus
13.	CP202324_CO_8	Department of Computer Engineering	Detection of Objects to Assist Individuals with Visual Impaired Using YOLOv8	Yogeshwari V. Mahajan,S. Satalkar, V. Rao, A. Yadav, J. Sirwani	2024 8th International Conference on Computing, Communication, Control and Automation (ICCUBEA)	-	3-Jan	International	10.1109/ICCUBEA61740.2024.10774672	22.01.2024	Pune, India	Scopus
14.	CP202324_CO_9	Department of Computer Engineering	Attention U-Net for Low Light Image Enhancement	Mrs.Deepa Pushkar Mahajan	International Conference on Computing Communication Control and Automation	-	-	International	https://doi.org/10.1109/ICCUBEA58933.2023.10392067	25 February 2024	-	Scopus
15.	CP202324_CO_11	Department of Computer Engineering	Improvised Real-Time Tweet Analysis for Brand Recognition	Jagtap N.S.;Mishra P.;Dhakane A.;Shevatekar P.;Halkarnikar P.P.;Mudholkar R.	Lecture Notes in Networks and Systems	819	195-203	International	10.1007/978-981-99-7820-5_16	06/04/2024 and 7/04-2024	Ahmedabad	Scopus
16.	CP202324_CO_13	Department of Computer Engineering	Threat Analysis and Attack Modeling for Identity Management Solutions	Lohar S.;Babar S.;Mahalle P.	Lecture Notes in Networks and Systems	1110 LNNS	73-88	International	10.1007/978-981-97-6678-9_7	15-17 October 2024	Kaski, Nepal	Scopus
17.	CP202324_CO_14	Department of Computer Engineering	A Comprehensive Survey on Anomaly Detection in Social	Lunawat S.;Rao J.;Patil P.	4th International Conference on Sustainable Expert	-	363-370	International	10.1109/ICSES63445.2024.10763303	11-13 December	Pudukkottai, India	Scopus

			Media Networks: Challenges, Methods, and Future Directions		Systems Icses 2024 Proceedings					2023		
18.	CP202324_CO_15	Department of Computer Engineering	An Efficient Approach for Crop Disease Detection using Deep Learning	Lunawat S.;Pawar V.;Deore R.;Bile A.;Gawade A.;Nikam N.	2nd International Conference on Automation, Computing and Renewable Systems, ICACRS 2023 - Proceedings	-	1907-1914	International	10.1109/ICACRS58579.2023.10404661.	Oct-24	Kaski, Nepal	Scopus
19.	CP202324_CO_16	Department of Computer Engineering	A Comprehensive Survey of Image Segmentation for Medical Images	Kherde T.C.;Baraskar T.	4th International Conference on Sustainable Expert Systems Icses 2024 Proceedings	NA	1137-1144	International	10.1109/ICSES63445.2024.10763045	2023	Tirunelveli, India	Scopus
20.	CP202324_CO_17	Department of Computer Engineering	Connect: A Secure Approach for Collaborative Learning by Building a Social Media Platform	Sonali Lunawat &Vaidehi Pawar	International Conference on Computing Communication Control and Automation	-	-	International	https://doi.org/10.1007/978-981-99-7962-2_13	Oct-24	Kaski, Nepal	Scopus
21.	CP202324_CO_18	Department of Computer Engineering	Anterior Cruciate Ligament Tear Detection: ML and DL Approaches	Kulkarni M.;Khan R.A.H.	4th International Conference on Sustainable Expert Systems Icses 2024 Proceedings	NA	1091-1094	International	10.1109/ICSES63445.2024.10763125	21-22 June 2023	Bengaluru	Scopus
22.	CP202324_CO_19	Department of Computer Engineering	An Evolutionary Optimization Based on Clustering Algorithm to Enhance VANET Communication Services	Badole M.H.;Thakare A.D.	Lecture Notes in Networks and Systems	789 LNNS	291-311	International	10.1007/978-981-99-6586-1_20	28-29 April 2023	Nagpur, India	Scopus
23.	CP202324_CO_20	Department of Computer Engineering	A Review Paper on Object-Detection using the DeepLearning Approach	Minal Bodke; Chetan Patil; Pratik Chopade; Yashodhan Patil; Omkar Patil	2023 11th International Conference on Emerging Trends in Engineering & Technology - Signal and Information Processing	-	-	International	10.1109/ICETET-SIP58143.2023.10151610	23-24 November 2023	Faridabad,India	Scopus

					(ICETET - SIP)							
24.	CP202324_CO_21	Department of Computer Engineering	Design of an efficient deep Learning Model for Segmentation and Classification of Psoriasis and Vitiligo Skin diseases	Reddy D.A.;Shambharkar S.;Chaudhari D.;Jyothsna K.;Somkunwar R.K.;Srinish Reddy A.	2023 International Conference on Advances in Computation, Communication and Information Technology (ICAICCIT)	NA	199-204	International	10.1109/ICAICCIT60255.2023.10465712	10-13 December 2023	IIIT, Banglore	Scopus
25.	CP202324_ETC_1	Department of Electronics and Telecommunication Engineering	Technologies for Primary Storage Of Onions	S Dixit, S Pulliwar, K Narware, K Napte	2023 World Conference on Communication & Computing (WCONF)	-	-	International	2-s2.0-85160746606	14-16 July 2023	RAIPUR, India	N
26.	CP202324_ME_1	Department of Mechanical Engineering	Injector Deposition and Behavior Change of Diesel Engine Fueled with Calophyllum Oil Biodiesel Blend under 150 Hrs Endurance Test	Bawane R.K.;Gadge N.;Shelke G.N.;Bawane D.	SAE Technical Papers	-	-	International	10.4271/2023-01-0947	SAE	April 18-20, 2023	Scopus
27.	CP202324_ME_2	Department of Mechanical Engineering	Synthesis and characterization of Al-AlN composite	Khond A.;Charkha P.;Tiwari H.	Materials Today Proceedings	98	160-165	International	10.1016/j.matpr.2023.10.039	Material Today	NA	Scopus

List of Book Chapters 2023-24

Sr.No.	ID	Department	Title	Author(s)	Book/ Book Chapter Name	Volume	Pages	Issue	DOI	Scopus Indexed
1.	BC202324_AS_1	Department of Applied Sciences and Humanities	Silk fibroin - a diagnostic tool for targeted drug delivery system	Ghutepatil P.R.;Joshi R.B.;Pawar S.H.	Silk Fibroin Advances in Applications and Research	ISBN: 979-8-88697-402-7	177-202	-	10.52305/BOCB5641	Scopus
2.	BC202324_AS_2	Department of Applied Sciences and Humanities	Design and Performance Analysis of PV-Based Grid Connected Nanogrid System	Dr. Amita Rajesh Patil Rode	-	-	-	978-100-3-52171-6	-	-
3.	BC202324_CO_1	Department of Computer Engineering	A Sustainable IoT-Based Smart Transportation System for Urban Mobility	Salunke M.B.;Kulkarni S.V.;Ovale S.;Manjre B.M.;Limkar S.;Shaikh F.;Sai V.	Wsn and Iot an Integrated Approach for Smart Applications	-	144-164	-	10.1201/9781003437079-6	Scopus
4.	BC202324_CO_2	Department of Computer Engineering	Standardization in the Transformation of Civic Systems Using Safe and Secure Internet of Things Systems	Jadhav A.D.	Signals and Communication Technology	Part F1293	15-Mar	-	10.1007/978-3-031-34601-9_1	Scopus
5.	BC202324_CO_3	Department of Computer Engineering	Connect: A Secure Approach for Collaborative Learning by Building a Social Media Platform	Sonali Lunawat, Vaidehi Pawar	Data Intelligence and Cognitive Informatics	NA	167--180	NA	https://doi.org/10.1007/978-981-99-7962-2_13	NO

List of Books 2023-24

Sr. No.	B ID	Department	Name of the Author	Title of the book/chapters published	National / International	ISBN/ISSN number of the proceeding	Name of the publisher
1.	BO202324_CI_1	Department of Civil Engineering	Sahil Salvi	Morphometric Analysis and Prioritization of Watershed	International	978-620-6-75461-9	Lap Lambert Academic Publishing
2.	BO202324_CI_2	Department of Civil Engineering	Dr. Arun Dhawale	Reuse of Domestic Wastewater - A case Study of Nanded City	International	978-620-6-75321-6	LAP LAMBERT Academic Publishing
3.	BO202324_CI_3	Department of Civil Engineering	Satish Pitake	4D Modeling Application for Construction Planning	International	978-620-6-76834-0	LAP LAMBERT Academic Publishing
4.	BO202324_CI_4	Department of Civil Engineering	Anand B Kudoli	Concrete Technology	International	978-620-7-44803-6	LAMBERT ACADEMIC PUBLISHING
5.	BO202324_CI_5	Department of Civil Engineering	Anand B. Kudoli	Integrated Water Resources Management	International	978-620-6-76690-2	LAMBERT ACADEMIC PUBLISHING
6.	BO202324_CI_6	Department of Civil Engineering	Akshay B. Rahane	Soil - A Complex Material	International	978-620-6-84524-9	Lamber Academi Publishing
7.	BO202324_CI_7	Department of Civil Engineering	Dr.M.M.Yeole	Research Methodology and IPR	National	978-93-55852-11-3	Technical Publications
8.	BO202324_CO_1	Department of Computer Engineering	Dr. Abhijit D. Jadhav	Data Modeling and Visualization	International	978-93-5585-441-4	Technical Publication
9.	BO202324_CO_2	Department of Computer Engineering	Dr. Archana Kollu	Data science ethics and responsible ai eithical considerations in data science and ai	International	8119534387, 9788119534388	Xoffencer
10	BO202324_ETC_1	Department of Electronics and Telecommunication	Vijayalaxmi Kumbhar, Maithili Andhare	Control Systems	National	ISBN : 978-93-5757-392-4	Scientific International Publishing House (SIPH)

Journal Publication
(A.Y. 2023-24)

JP202324_AS_01

Title of Design Paper: Water Distribution System

STRUCTURAL, MORPHOLOGICAL AND MAGNETIC PROPERTIES OF FUNCTIONALIZED MANGANESE IRON OXIDE NANOPARTICLES FOR BIOLOGICAL APPLICATIONS

Priti Ghutepatil[1,*] and Priya Oghe[2]

Received: March 21, 2024; Revised: May 13, 2024; Accepted: June 12, 2024

Abstract

The chitosan functionalized $MnFe_2O_4$ nanoparticles were synthesized using thermal decomposition method. The morphological, structural and magnetic properties of obtained chitosan functionalized magnetic nanoparticles were studied to assess the feasibility for biomedical applications. The crystallite size of nanoparticles observed using XRD was 15nm. Functional group attachment to surface of nanoparticles was analyzed using FTIR. Particle size of nanoparticles was studied by TEM analysis and it showed that particles were roughly spherical. Thermal stability and bonding strength of ligands to the surface of material was determined using TGA. The magnetization of chitosan functionalized nanoparticles observed by VSM is 56emu/g and VSM showed no coercivity and remanence existence, stipulating the super-paramagnetic behavior. The cell viability of chitosan functionalized nanoparticles was above 85% at concentration up to the 1.0mg mL^{-1} on mouse fibroblast cell line i.e. L929 cell line. These studies revealed that, $MnFe_2O_4$ nanoparticles are potential materials for biomedical applications.

Keywords: Magnetic nanoparticles; Chitosan; Super-paramagnetic; Biomedical application

Introduction

Magnetic nanoparticles (MNPs) have been recognized as promising material due to their outstanding properties (physical and chemical) in countless fields. It has been researched with interest due to its intrinsic characteristics in order to use it in medical applications such as magnetic resonance imaging (MRI), magnetic cell separation (MCS), contrast agent, drug delivery and magnetic hyperthermia (Zhao *et al*., 2006, Phadatare *et al*., 2013). Magnetic nanoparticles have controllable sizes in the range of few to tens of nanometers. Magnetic nanoparticles can be operated by applying external magnetic field. Manganese ferrite ($MnFe_2O_4$) is noteworthy ferrite constituent. It demonstrates outstanding characteristics such as high resistivity, high magnetization, and superparamagnetic nature. Due to these properties, manganese ferrite ($MnFe_2O_4$) becomes noteworthy material for biomedical applications (Sahoo *et al*., 2012). The suitable surface chemistry is an

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Title of Paper: Applications of the Domination and Fractional Domination in Computational Biology using LPP Formulation

Mahesh Sarada / Afr.J.Bio.Sc. 6(5) (2024). 4340-4358 ISSN: 2663-2187

https://doi.org/10.33472/AFJBS.6.5.2024. 4340-4358

AfricanJournalofBiological Sciences

Applicationsof the Domination and Fractional Domination in Computational Biology using LPP Formulation

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Abstract

The main goal of this study is utilizing domination and fractional domination in computational biology. The domination number of a graph is the size of the smallest domination set. The collection of vertices with non-negative weights is known as a fractional domination set such that the sum of the weights of the vertices and their neighbours is at least one. In the given study our proposed approach can be used to apply the domination and fractional domination concepts for connected graph using adjacency matrix and LPP formulation. Here we have used these conceptsin computational biological systems such as gene regulatory networks, protein-protein interaction networks and healthcare network optimization. Computational biology is an interdisciplinary field that applies computational techniques and mathematical models to analyse and interpret biological data.

Keywords: Dominating set, fractional domination number, adjacency matrix, computational biological network, LPP formulation.

Title of Paper: Establishing system for an Alumni Engagement and On-Campus Company Insights

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Establishing system for an Alumni Engagement and On-Campus Company Insights

Jitesh Kawal, Gaurav Sonavane, Swastik Ghonsikar, Nikita Badhekar, Prof. Tejaswini Gavhane

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Abstract - *This paper presents a comprehensive system for alumni engagement and on-campus company insights at Pimpri Chinchwad College of Engineering and Research (PCCOER). Leveraging technologies like Google Firebase, the system facilitates alumni connections, on-campus company insights, and personalized recommendations for students based on their engineering stream. Inspired by the Centralized Alumni Management System (CAMS), it incorporates alumni registration, verification, and networking features, fostering seamless connections between current students and graduates. Additionally, the system integrates elements of CAMS' mentorship process, enabling mentorship opportunities between alumni and students. Dynamic blogs covering technology trends, industry insights, and on-campus company visits enrich the academic journey, while timely notifications about on-campus company drives keep students informed. Previous year college placement data, managed by administrators, provides valuable insights into placement trends. Overall, the system enhances student engagement, fosters collaborative learning, and contributes to higher rates of successful placements for PCCOER students.*

Key Words: **Alumni engagement, Pimpri Chinchwad College of Engineering and Research (PCCOER), Google Firebase, Personalized Blog recommendations, Oncampus company Drives Notifications, Administrators, Share Thoughts.**

I.INTRODUCTION

In today's ever-changing educational environment, maintaining alumni connections and gaining insights into oncampus industry happenings are vital for student success. This paper introduces an innovative system developed at Pimpri Chinchwad College of Engineering and Research (PCCOER) using Google Firebase technology. It serves as a bridge between students and alumni, offering tailored guidance and real-world career perspectives. Through dynamic blogs covering emerging technology trends and industry insights, students are engaged in an enriching learning experience. This paper outlines the system's development process, its functionalities, and the positive impact it has on student academic and career outcomes.

II. Objectives

- Alumni Connection: Develop an alumni engagement portal to facilitate alumni connections with PCCOER, enabling them to create profiles, connect with fellow alumni, and engage with the institution for mentorship, guidance, and support.
- Improve Placement Outcomes: Empower students with access to previous year college placement data, enabling them to identify trends, give information through blogs about different on campus company pattern, benchmark their performance, and strategize effectively for future opportunities.
- On-Campus Company Experience Blogs: Create a dynamic blog-like section where students can access on-campus company information and their exam pattern, selection process, and work culture from alumni. Implement keywordbased content filtering to ensure the quality and relevance of shared content.
- On-Campus Company Drive Notification: Introduce a notification session that aggregate real-time job from various domains managed by College Placement Officer.
- Placed Student Information: Platform shows placed student photo, name, company name information. These motivate student and help to directly react out with alumni for specific information related with drive.
- Personalized Recommendations: Implement a recommendation system that tailors content suggestions to individual students based on their engineering stream for enhancing their academic and career preparation.
- Student Showcase Platform through tweets: Create a dedicated space for students to share their certification, achievements, projects, and thoughts with the wider student community.

JP202324_AS_04

Title of paper: Sentiment Analysis in Financial Markets

International Journal of Innovative Science and Research Technology

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Journal article Open

Sentiment Analysis in Financial Markets

Ashwini K. Bhavsar ; Tejaswini H. Gavhane

Moving ahead in this era of data, there is a lot of information, which if used in the right way, can be used in the financial domain as well, to determine the market. This prediction can lead to large profits and help in understanding the complex financial markets. Sentiment analysis is a kind of data mining technique, which can be used to process and understand the textual content to derive meaningful insights. In this paper, for the purpose of sentiment analysis, natural language processing will be used, which is the area of machine learning in the rise. The techniques will be applied here onto a large dataset from Twitter and hence, analyse the public opinions about the financial markets.

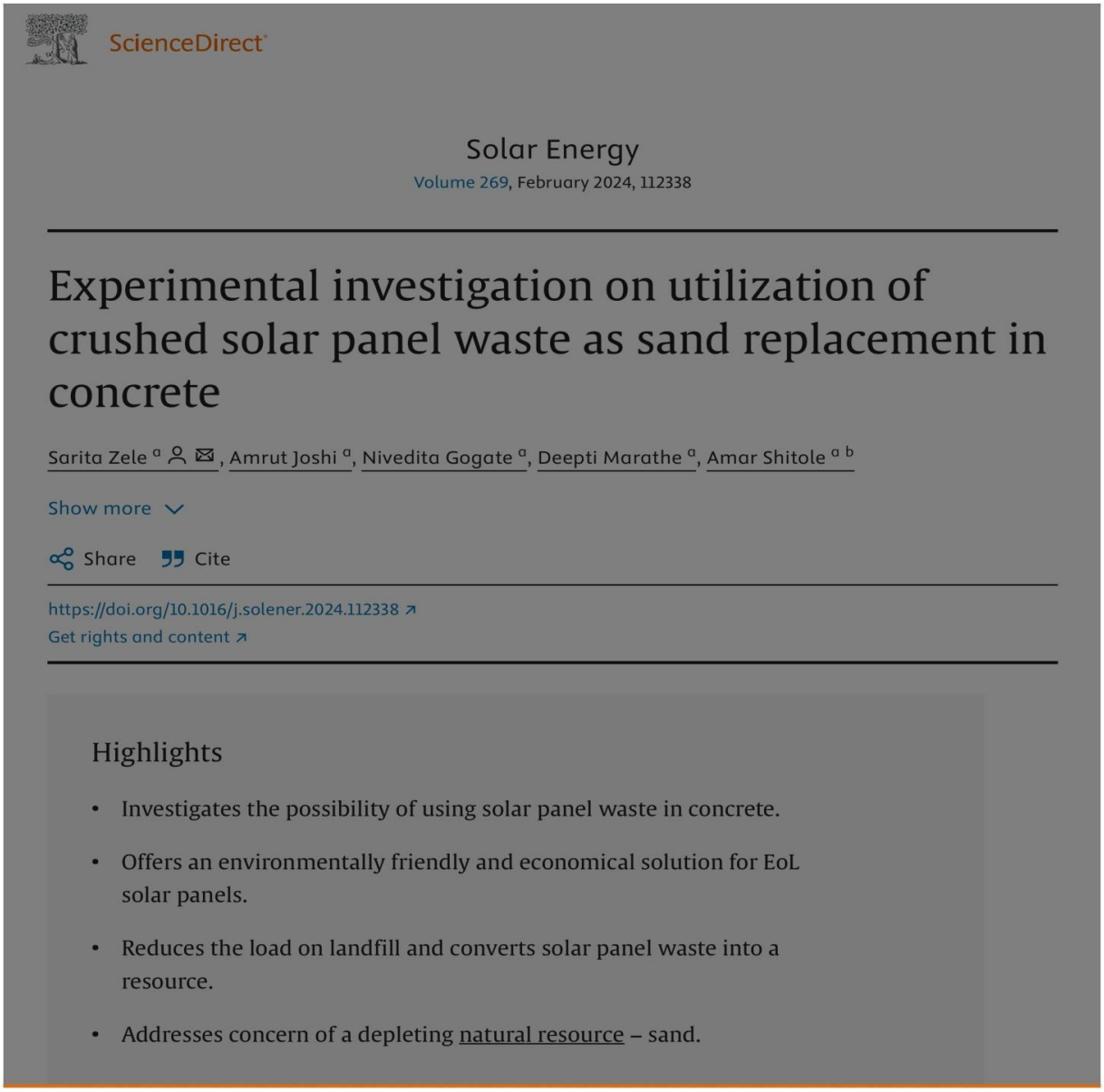
Keywords:- Predicting finances, Natural Language Processing(NLP),Financial Markets, Analysis of Sentiments, Mining Text.

Files

IJISRT24FEB087.pdf

JP202324_AS_05

Title of Paper: Experimental investigation on utilization of crushed solar panel waste as sand replacement in



ScienceDirect

Solar Energy

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Experimental investigation on utilization of crushed solar panel waste as sand replacement in concrete

Sarita Zele [a], Amrut Joshi [a], Nivedita Gogate [a], Deepti Marathe [a], Amar Shitole [a b]

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https://doi.org/10.1016/j.solener.2024.112338

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Highlights

- Investigates the possibility of using solar panel waste in concrete.
- Offers an environmentally friendly and economical solution for EoL solar panels.
- Reduces the load on landfill and converts solar panel waste into a resource.
- Addresses concern of a depleting natural resource – sand.

JP202324_AS_06

Certain Analytical Aspects of Power Systems in the Presence of Facts Controllers - SVC and TCSC

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Original Article

Certain Analytical Aspects of Power Systems in the Presence of Facts Controllers - SVC and TCSC

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Abstract *- Calculating power flows and voltages throughout a network under specific terminal or bus conditions is the power flow problem. The calculations of power flow are analyzed in power systems for planning, operational planning, the scheduling of economics and operation/control. Power flow equations, generally referred into power flow, are the key to power system operation. Effective power system performance with construction is generally done with the power flows. Newton-Raphson's (NR) method ensures that a good technique is applied for effectively tracking the power flow calculations. The effectiveness and the ability of the transmission lines to operate within critical parameters varies, mostly depending on the power system. So, to maintain a suitable voltage profile at multiple buses with changing power flow, the NR approach is applied. In this study, a MATLAB program to compute voltages, active, reactive power, and losses is developed in the selected systems, and to analyze the results for wide load variations, different transmission line parameters incorporated the compensators SVC and TCSC. The analysis is presented for the standard IEEE-14 bus system supporting graphical along with numerical results are presented.*

Keywords *- Power flow, Newton-Raphson's method, SVC, TCSC.*

1. Introduction

Transmission lines in the power system are created to meet the demands of reactive and real power, as demanded by various connected loads in the network. The power flows are compulsory to analyze the steady-state solution to power systems at a given set of Bus-bar loads [1-3].

A computer model of how electricity flows through an interconnected system is known as a power-flow study or load-flow study in the field of power engineering. The power flows typically focus on various aspects of AC power parameters, such as voltages, voltage angles, real power, and reactive power, and typically use simplified notations like a one-line diagram and per-unit system. It examines power systems operating normally in a steady state [8–9].

1.1. Basic Requirements of Load Flow Studies

The basic requirements of load flows can be summed up as follows:

- The convergence properties
- The efficiency of computation and memory needs
- The convenience and flexibility of the implementation.

1.2. Requirements for Power Flows

Load flow studies are calculated for different conditions; points to consider are discussed below:

The line flows

- The bus voltage, along with the system voltage profile
- The effect of changes in configurations is incorporated with circuits in network loading
- The accompanying consequences of gearbox capability reductions and/or producing system loads
- The effect of in-phase and quadrative boost voltage on network loading effect
- Economic system operation
- System loss minimization
- Setting the transformer tap for economical operation
- Altering conductor diameters and system voltages may be able to improve an existing system.

1.3. Reviews of Load Flow Methods

The Gauss-Seidel iterative approach based on a nodal admittance matrix (also known as the admittance method below) was frequently employed in the early phases of employing digital computers to address power system load flow issues. This method's fundamentals are rather straightforward and only require a small amount of memory. These characteristics allowed it to fit the level of power system and computer theory at the time. Its convergence, nonetheless, is unsatisfactory. The number of iterations rises significantly as the system scale increases, and occasionally the iteration process is unable to converge.

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A REVIEW ON CERTAINTY OF LOAD MONITORING AND ANALYSIS FOR HOME ENERGY SYSTEMS

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Dr. P. Goswami, Associate Professor, General Engineering Department , Institute Of Chemical Technology, Mumbai

Abstract
One important aspect of energy management is energy monitoring. Consequently, before planning some technical measures to reduce energy use, premises must be monitored for power consumption. Through Load Monitoring (LM), the most recent advancements in appliance energy management is presented in this paper. Various methods of Home Energy Management (HEM) using LM have been analyzed and categorized in an effort to investigate the most recent trend in energy management for researchers in the field. The researchers' various contributions have been highlighted, as have some methods for lowering a building's power consumption to save money and improve the environment. According to the findings of this study, there are problems with load management and monitoring that require attention; issues like the need for a surveillance system capable of that can recognize as many different types of loads as possible and more accurate recognition. Additionally, additional efforts are required to implement LM in appliance energy management. Last but not least, it is necessary to promote a culture of energy management among those who use electricity, whether in businesses, offices, or homes. The study will assist local researchers in gaining a clear understanding of the area's most recent trends.

I. INTRODUCTION

In India, commercial buildings account for nearly 26% of energy consumption. Additionally, commercial building energy consumption in India is rising at a rate of 2.7% annually, according to the US energy information agency. The majority of energy used in buildings is wasted as a result of inadequate energy monitoring systems. In this regard, this paper reviews a building energy monitoring solution and conducts an analysis of the data gathered from the monitoring. Multi Functional Meters, which measure electrical qualities like voltage, current, and power, among others, are used to obtain the data for energy monitoring. The various communication systems that the meter supports are analyzed in order to obtain data from the meter. First, an alert message is sent to the appropriate employee to prevent power cable overload by monitoring the collected data. Second, the obtained data are the subject of data analysis. The obtained load curve is used in the data analysis to calculate load factor, imbalance factor, rising time, and period of high load.. These parameters will assist the manager or operator of a commercial building in optimizing its energy use. Thirdly, in order to fully control the meter, it is suggested to interface the multifunctional meter with Arduino.

The price of electrical energy has gone up as a result of the decreasing supply of fossil fuels and the rising demand for electrical energy. so that the community must cultivate a culture of conserving electrical energy as a habit. On the other hand, without a controllable auxiliary system that can control how much energy is used, energy-saving behavior cannot be implemented on a large scale. Given these concerns, a strategy that encourages a culture of energy conservation must be developed. An energy-efficient culture-supporting system is proposed in this paper to facilitate active energy efficiency methods. This system combines a smart electrical panel with an electric power monitoring system. It can automatically regulate electrical loads, track power use, produce detailed data, and conduct energy analysis. It also monitors the use of electrical energy continuously. This research was carried out using the research and development approach. By using a raspberry PI 3 and a smart panel and a PZEM-004t power energy meter have been used in this research to create an electrical power control and monitoring system prototype. Electrical loads are automatically controlled by the

JP202324_AS_08

Title of Paper: Use of Elliptic Curve Cryptography Model for Images Analysis and Stenographic Modelling

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Use Of Elliptic Curve Cryptography Model for Images Analysis and Stenographic Modelling

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ABSTRACT

This comprehensive program protects image data from unauthorized access and provides methods for authentication, tamper detection, and image quality assessment using intelligent algorithms. The first module focuses on ECC; a powerful encryption algorithm known for its power in securing digital data. By generating ECC keys, encrypting image data, and using decryption procedures, we have ensured a secure framework for protecting sensitive physical information. This forms the basis of cryptographic security. In the second module, we strengthened image security by introducing a two-layer encryption strategy, which combines ECC with a strong RSA algorithm. This hybrid approach utilized the strengths of both cryptographic techniques, improving encryption strength and resilience against potential attacks. The combination of ECC and RSA creates a formidable defense, making it more challenging for adversaries to compromise the security of encrypted images. Going beyond encryption, the third module delved into steganography, a secret communication technique that hides information within the pixels of an image. By embedding private messages or images within the cover image, we introduce an extra layer of security. This method hides sensitive information and makes it difficult for unauthorized entities to access or manipulate hidden content, thereby improving the overall security posture. In the fourth module, we introduced a quality measurement system based on machine learning. Using advanced algorithms and carefully selected datasets, our system automatically checks image quality. This innovation is important in identifying possible manipulation or modification of images. A machine learning model, trained on a diverse set of images, provides intelligent ways to check the authenticity of visual content, accompanied by cryptographic and steganographic layers of security.

Keywords: ECC And RSA Encryption, Steganography, Image Quality Assessment, Machine Learning, Tamper Detection.

JP202324_AS_09

Title of Paper: Bounds for Fractional Domination Number of Some Graphs and their Dual Graphs

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RESEARCH ARTICLE

Bounds for Fractional Domination Number of Some Graphs and their Dual Graphs

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ABSTRACT

The graph with notation $\gamma_f(G)$ and $\gamma_f(G')$ be the fractional domination number of graph G and their dual graph G'. In the given study, we have presented the bounds for fractional domination number of some graphs and their dual graphs. The specific graphs with Cycle graph, Wheel graph, Complete graph, Star graph, Bi-Star graph, Sunlet graph, and Cartesian product of graphs. We have presented some results on the union and join of $\gamma_f(G)$ and $\gamma_f(G')$ so that programmes and algorithms can leverage the specified relation.

Keywords: Dominating Set, Fractional Domination Function, Fractional Domination Number, Dual graph.

2010 Mathematics Subject Classification: 05C69.

JP202324_CI_01

Title of Paper: Slope Stability Analysis of Xanthan Gum Biopolymer Treated Laterite Soil Using Plaxis Limit Equilibrium Method (PLAXIS LE)

Slope Stability Analysis of Xanthan Gum Biopolymer Treated Laterite Soil Using Plaxis Limit Equilibrium Method (PLAXIS LE)

| Geotechnical Engineering | Published: 08 February 2024

| Volume 28, pages 1205–1216, (2024) Cite this article

KSCE Journal of Civil Engineering

Aims and scope →

Shailendra P. Banne, Arun W. Dhawale, Rajkumar B. Patil, Manjitsinh Girase, Chinmay Kulkarni, Mayuri Dake & Simran Khan

Abstract

The landslides or slope failures are responsible for many fatalities and significant delays in travel by blocking the roads. The soil properties such as cohesiveness, angle of internal friction, and bulk unit weight are the primary parameters responsible for land stability and should be considered for the analysis. In this paper, a Xanthan Gum (XG) biopolymer is applied to the laterite soil to improve its engineering properties. The Plaxis Limit Equilibrium (LE) 2D software is utilized to analyze the slope's stability. Four section/ paths of the Lote Parshuram Ghat in the Ratnagiri area of Maharashtra, India are taken for the

Innovative Use of Eco-Enzymes for Domestic Wastewater Purification

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JP202324_CI_03

Title of Paper: Application of Arc-SWAT Model for Water Budgeting and Water Resource Planning at the Yeralwadi Catchment of Khatav, India

Application of Arc-SWAT Model for Water Budgeting and Water Resource Planning at the Yeralwadi Catchment of Khatav, India

Sep 2024 · Nature Environment and Pollution T... 23(1):203-213

DOI: 10.46488/NEPT.2024.v23i01.016

Ranjeet Sabale · S S Bobade · Venkatesh Basappa · M K Jose

Abstract and figures

Every facet of life, including human habitation, economic development, food security, etc., depends on water as a valuable resource. Due to the burgeoning population and rapid urbanization, water availability needs to be simulated and measured using hydrologic models and trustworthy data. To fulfill this aim, the SWAT model was processed in this work. The SWAT model was formulated to estimate the hydrological parameters of Yeralwadi using meteorological data from IMD (India Meteorological Department) for the period 1995-2020. The observed discharge data was collected from the HDUG Nasik group and used in the calibration and validation of the Model. The SWAT model was corrected & validated through the SUFI-II algorithm in SWAT-CUP to get a better result. The model's sensitivity is checked by using statistical parameters like Nash-Sutcliffe Efficiency (NSE) and a coefficient of determination (R 2). NSE values were 0.72 and 0.80 in calibration and validation, and R 2 were 0.80 & 0.76 in calibration and validation, respectively, indicating the acceptance of the model. Results show that 40.6% of the total yearly precipitation was lost by evapotranspiration. The estimated total discharge from the Yeralwadi catchment was 55.6%, out of which 41.2% was surface runoff and 14.4% was baseflow. The other 17.8% was made up of percolation into confined and unconfined aquifers, which served as soil and groundwater storages. The surface runoff is influenced by Curve number (CnII), SOL_AWC, ESCO, and base flow was influenced by ALPHA-BF and GW_REVAP. This study will be useful to water managers and researchers to deve

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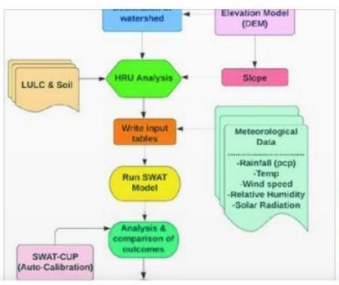

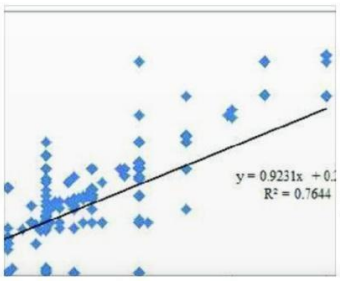

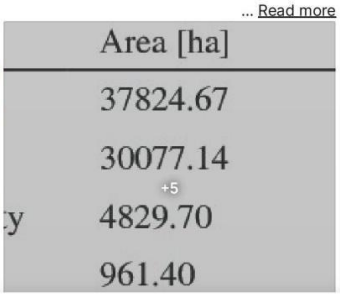

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A REVIEW ON INVESTIGATION STUDY ON BAMBOO AS REINFORCEMENT MATERIAL

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Abstract— In many developing nations, the use of steel as a construction reinforcement is steadily rising. However, due to cost and availability considerations, there's a growing need to find suitable replacements for steel. In cases where steel production falls short of meeting demand, having a viable alternative that rivals steel's qualities becomes imperative. Bamboo emerges as a promising alternative to steel in small-scale construction and affordable housing, especially in countries like India, due to its abundance and durability. It can effectively serve as a substitute for steel in reinforcement, offering commendable tensile resistance, a crucial requirement for such applications. The inherent strength of bamboo, stemming from its natural tubular structure that withstands wind forces well, makes it a viable option. Addressing bamboo's weaknesses and promoting its innovative use as a steel replacement presents a valuable opportunity. This research intends to perform a literature analysis to evaluate the practicality of utilizing bamboo as a reinforcing material in concrete constructions, while significant investigation has been carried out on the strength attributes of metal-reinforced concrete, comprehensive knowledge on bamboo-reinforced concrete is insufficient. Hence, this research seeks to offer preliminary understanding of the strength features and behavior of bamboo-reinforced concrete, particularly in addressing challenges related to affordable shelters.

Keywords— Strengthening Material, Bamboo, mechanical properties, strength

I. INTRODUCTION

Because of its good mechanical qualities and accessibility in developing nations, research has demonstrated that bamboo is employed in concrete structures.[1] Numerous research has investigated the feasibility of utilising bamboo in structural applications rather than more conventional steel reinforcement. All things considered, these studies suggest that bamboo has enough strength and material properties to be a viable substitute for steel reinforcement. One such experiment's goal was to determine how long bamboo would last as reinforcement for concrete structures [2]. This paper gives a comprehensive analysis of the literature on the Structural and material characteristics of bamboo, which is used as reinforcement in traditional concrete constructions, in order to address these difficulties.

JP202324_CI_05

Title of Paper: Comparative Study Of Natural Coagulants For Dairy Effluent Treatment.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

"Comparative Study of Natural Coagulants for Dairy Effluent Treatment"

Kunal Taksande[1] Omkar Mangule[2], Omkar Singapure[3], Abhijeet Kawanpure[4], Rahul S. Patil[5],

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Abstract – Among all the natural resources, water is without a doubt the most significant. Dairy sector effluent is one of the main sources of pollution in the environment. During several phases of processing, the dairy sector is one of the largest consumers of water. This method generates wastewater with high pH, BOD, COD, and turbidity levels. About three liters of wastewater are produced for every liter of processed milk in the dairy industry, which requires enormous amounts of water to turn raw milk into dairy products. The usefulness of natural coagulants, namely sawdust, fenugreek powder, custard apple powder, neem leaf powder, and Moringa oleifera seeds, for the remediation of dairy wastewater, is investigated in this work in light of the increased emphasis on sustainable wastewater treatment.

Keywords: Fenugreek, Neem Leaves, pH, Turbidity, COD

1. Introduction:

One of the global leaders in food processing is the dairy industry. The dairy business can effectively transform milk into dairy components and products, thereby sustainably contributing to global food security. The quantity and quality of waste produced by the dairy industry can lead to major pollution issues. The sanitation and washing processes in the milk manufacturing facilities produce the majority of the wastewater produced by the milk industry. Dairy wastewater with high organic matter concentrations pollutes the surrounding area. Salts, casein/whey, oils, lipids, and detergents are also included. Wastewater from dairy plants cannot be promptly emptied into rivers, lakes, or other bodies of water for later use. Sustainable water management has received a lot of attention lately, and developing effective methods is a challenge, particularly in the dairy wastewater sector. Eliminating turbidity in the water and colloidal contaminants are the main objectives of this technique. Because of their high removal efficiency, chemical-based coagulants have been widely used in industrial wastewater treatment systems. The potential use of plant-based coagulants as cost-effective, non-toxic, biodegradable substitutes for chemical coagulants because of their reduced sludge volume, treatment costs, and affordability. Dairy effluent can be easily treated by biological treatment technology. Large amounts of hazardous sludge were also produced during the post-treatment phase following coagulation using chemical coagulants, complicating disposal; however, the final effluent produced by employing natural coagulants can be easily used for irrigation. The goal of the current investigation is to determine if physical and chemical processes specifically, coagulation using an herbal coagulant are feasible for treating dairy effluent. This study investigates the use of sawdust, fenugreek powder, custard-apple powder, neem leaf powder, and Moringa oleifera as coagulants for the treatment of dairy effluent. Wastewater from dairy farms is gathered from Katraj Dairy in Pune, Maharashtra.

Title of Paper: Reinforcing Resilience- Enhancing Flexural and Compressive Strength using SFRC.

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"REINFORCING RESILIENCE: ENHANCING FLEXURAL AND COMPRESSIVE STRENGTH USING SFRC"

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ABSTRACT

This study investigates the enhancement of flexural and compressive strengths in M25 grade concrete by incorporating steel fiber reinforced concrete (SFRC) at varying percentages (1%, 2%, and 3%). The project aims to assess the effectiveness of SFRC in reinforcing resilience compared to plain cement concrete (PCC). The experimental setup involves casting concrete specimens with different steel fiber percentages and subjecting them to curing periods of 7, 14, 21, and 28 days. The evaluation of compressive strength and flexural strength is conducted using standard testing procedures. Additionally, the physical properties of the concrete, such as workability, are determined through the slump cone test. The results obtained from the experiments are analyzed to ascertain the impact of steel fiber addition on the mechanical properties and workability of the concrete.

This research contributes to understanding the potential of SFRC in enhancing the performance and durability of concrete structures, thereby reinforcing resilience in construction practices.

Keywords: Steel Fiber, Flexural strength of concrete, Compressive strength of concrete, Slump value

I. INTRODUCTION

Concrete, as one of the most widely used construction materials, constantly undergoes innovations aimed at enhancing its mechanical properties and durability. In this context, steel fiber reinforced concrete (SFRC) has emerged as a promising solution to address the challenges of traditional plain cement concrete (PCC). SFRC incorporates steel fibers within the concrete matrix, offering improved resistance to cracking, enhanced flexural and compressive strengths, and increased toughness. This research focuses on investigating the effects of incorporating steel fibers into M25grade concrete to reinforce resilience. By comparing the compressive and flexural strengths of SFRC with varying steel fiber percentages (1%, 2%, and 3%) against conventional PCC, this study aims to provide insights into the performance enhancement achieved through SFRC. Additionally, the evaluation of physical properties such as workability through the slump cone test further contributes to understanding SFRC's applicability in real-world construction scenarios. Through systematic experimentation and analysis, this research seeks to contribute valuable knowledge towards leveraging SFRC as a sustainable and resilient solution for modern construction practices.

II. METHODOLOGY

- **Experimental Setup:** The experimental investigation was conducted to compare the flexural and compressive strengths of M25 grade concrete with and without the addition of steel fibers. Concrete mixtures were prepared according to the Indian Standard IS 10262:2019 guidelines, with variations in steel fiber content (1%, 2%, and 3%).
- **Material Preparation:** Portland cement, fine aggregate, coarse aggregate, and water were used as the base materials for concrete mixtures. Steel fibers conforming to ASTM A820/A820M were added to the mixtures at the specified percentages.
- **Specimen Casting:** Cylindrical specimens (150 mm diameter, 300 mm height) for compressive strength testing and prismatic specimens (100 mm × 100 mm × 500 mm) for flexural strength testing were cast using the prepared concrete mixtures.
- **Curing Regime:** After casting, the specimens were remolded and cured under standard laboratory conditions at a temperature of 20±2°C and relative humidity of 95% for durations of 7, 14, 21, and 28 days.

JP202324_CI_07

Title of Paper: Enhancement of properties of laterite soil used as subgrade using xanthan gum biopolymer.

Enhancement of properties of laterite soil used as subgrade using xanthan gum biopolymer

| Original Paper | Published: 15 March 2023

| Volume 6, pages 333–345, (2023) Cite this article

Shailendra Banne, Arun Dhawale, Saurabh Kulkarni, Vijay Muthekar & Kennedy Onyelowe

Abstract

Konkan area is the western coast line of India with 70.7% of its area is covered by laterite soil. Many engineering issues like foundation issues, subgrade issues, erosion and slope problems are being confronted because of these laterite soils. Utilization of xanthan gum in stabilizing laterite soils has been the subject of extensive research. Sets of untreated samples and those treated with various dosages of xanthan gum were subjected to Modified Proctor tests, Direct Shear tests, and California Bearing Ratio (CBR) tests to evaluate their effects on

Title of Paper: A Fibre Based Waste Fishnet Sheet Replacement with Asbestos.

Abstract

Using fishnet as reinforcement in cement mortar sheets is one possibility. In a preliminary analysis, the mechanical characteristics of mortar with nylon fishnet reinforcement are assessed. Waste nylon fishnet is employed in this study as mortar reinforcement. The compressive strength of mortar has decreased as a result of the addition of nylon fishnet. Also, the addition of nylon-based fishnet enhances several mortar qualities, such as its capacity to support a load. The sheet reinforced with fishnet is cheap and eco-friendly. Even though more research is required, it looks like using nylon fishnet as reinforcement could improve load-carrying capacity and flexural strength.

JP202324_CI_09

Title of Paper: Experimental Investigation on Water Treated Sludge,

EXPERIMENTAL INVESTIGATION ON WATER TREATED SLUDGE

Jul 2023 · European Chemical Bulletin

DOI: 10.48047/ecb/2023.12.si5.2602023.04/07/2023

Sahil Sanjeev Salvi

Abstract

To ensure compliance with legal requirements, users must concentrate their sewage and wastewater treatment processes. The primary goal of sewage treatment is the removal of numerous hazardous load components from the environment, including solids, organic carbon, nutrients, inorganic salts, metals, pathogens, and others. Effective wastewater collection and treatment are essential for the environment and public health. Protecting the environment in a way that is beneficial to public health and socioeconomics is the main goal of seawater management. Wastewater management's ultimate objective is to reduce the amount of water and organic material used in wastewater in an environmentally friendly manner. Sewage and waste water treatment is carried out using a variety of techniques to reduce the amount of water and wastewater containing organic material. Examining issues with public health and socioeconomics is essential.

JP202324_CI_10

Title of Paper: Morphometric Analysis of Sina River Basin at Midsangvi using RS and GIS.

Morphometric Analysis of Sina River Basin At Midsangavi Using RS & GIS Section

Jul 2023 · European Chemical Bulletin

DOI: 10.48047/ecb/2023.12.si5.2592023.04/07/2023

Sahil Sanjeev Salvi · Sudarshan Bobade

Abstract and figures

Quantitative morphometric analysis can be used to evaluate the drainage basin's properties and identify the hydrodynamic composition of the exposed rocks in the drainage basin. This study aims to maximise the benefits of water use based on watershed management by morphometric parameters and the determination of land use in the Sina River basin. Morphometric analysis using ESRI Software ArcGIS and land use and land cover using ROLTA GEOMATIC from CWPRS. The Research reveals that at 0.475, the drainage density of the study region is regarded as low. This suggests that it has a subsoil with a high porosity, a coarse drainage texture, and good vegetation cover. The elongation ratio value of 0.67 demonstrates the significant relief in the area. The drainage texture is substantially

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IMPACT OF VARIATIONS IN GEOTECHNICAL PROPERTIES OF BACKFILL MATERIAL ON THE SERVICEABILITY OF CANTILEVER EARTH RETAINING STRUCTURE: A CASE STUDY.

Sudarshan S. Bobade[1], Dr. Arun W. Dhawale[2], Dr. Vaibhav Garg[3]

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Abstract **— Landslides are major natural disasters. It affects the ecosystem and results in economic loss. The Konkan region from Maharashtra, India also experiences this problem every year. To prevent from such disasters the slope stabilization techniques are used, among which the retaining structure provision is one of them. Most of the time permanent RCC earth retaining structure (ERS) is provided. These structures are constructed for total serviceability period of 30-60 years but generally in most of the cases in lateritic soil, they cannot withstand for their total serviceable life. To find out the reasons of failure and to increase serviceability period, a detailed investigative study of engineering geological and geotechnical properties was conducted to assess the serviceability or structural safety of cantilever earth retaining wall at Dasgaon and Sahilnagar from Mahad Tehsil, Konkan region Maharashtra and the preventive measures from the failure of cantilever ERS are discussed.**

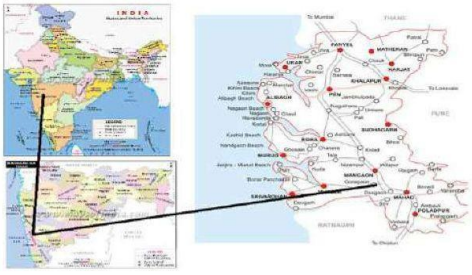
Keywords **— earth retaining structure; lateritic soil; failure, serviceability; structural safety; preventive measures.**

I. INTRODUCTION

In hilly terrain, due to anthropogenic activities and natural activities landslide occurs frequently. It affects the lifestyle of living people, the ecosystem and the economy of that area. The soil stabilization techniques are introduced to reduce such landslide; the retaining structure provision is one of them. The various types of earth retaining structures such as according to material, according to the serviceability period, according to the mode of failure, according to shape, among which permanent cantilever earth retaining structure is mostly used retaining structure in cut and fill operation and to reduce land instability. The geotechnical, structural and economic consideration is the most important to design the cantilever retaining structure. To design cantilever retaining structure it is important to know the geology and geotechnical parameters in that area, it affects the serviceability of that ERS. In this paper, the comparative analysis of pre-input design parameters i.e. the parameters at the time of structural design and post design parameters at the current scenario is compared.

In 2005, Raigad district experienced a heavy rainfall that triggers major landslides. In which huge lives and property loss was booked. That triggers a need to suggest the mitigative measures against slope instability. In accordance with this, at Sahilnagar a cantilever retaining structure is constructed in 2013. The designed earth retaining structure for Sahilnagar served for only three rainy seasons and in 2016 the ERS was observed to be failed after heavy rainfall. Such types of retaining structures are also provided a nearer area to mitigative measures. To achieve their serviceability various geotechnical tests are conducted on backfill material and its impact on design serviceable life in terms of factor of safety is calculated. Majorly retaining structure was failed in the rainy season; therefore it triggers the need to compute changes in input design parameters at current condition and at the full saturated condition of the soil. In the case of ERS, its structural design is mainly dependent on cohesion, internal angle of friction, Soil bearing capacity, the density of soil, surcharge angle of backfill and height of retaining wall. Among these listed parameters cohesion, internal angle of friction, dry density and saturated density of soil are found to be dependent on % of fine aggregate and Natural moisture content in the composition of backfill material. As percentage fineness is increased it affects on the specific gravity, natural moisture content, cohesion, dry density and saturated density of soil.

A. STUDY AREA AND GEOLOGY



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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Thermal Stress Analyses Of Laminated Beams Under Plane Stress Condition Of Elasticity

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[1]Associate Professor, Structural Engineering Department, Veermata Jijabai Technological Institute, Mumbai – 400012

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Abstract

Thermal stress analysis of laminates under plane stress conditions of elasticity have been performed with mixed semi-analytical model. The displacements and transverse stresses that occur naturally at an interface of laminae are considered as fundamental dependent variables and thus continuity of transverse stresses and displacements are implicitly maintained at the laminae interfaces. The mathematical model consists of defining a two-point boundary value problem (BVP) governed by a set of coupled first-order ordinary differential equations (ODEs). The accuracy and the effectiveness of the proposed model are assessed by comparing numerical results from the present investigation with the available elasticity solutions under plane stress conditions.

Keywords: semi-analytical method; laminate; plane stress; thermal load.

Introduction

Thermally induced deformations and stresses in layered composite and sandwich laminates represent a major concern in design of critical structures. These materials are also getting established in relatively new markets such as biomedical and electronic devices and also in civil structures. Due to increase in applications of composites in recent years, determination of thermally induced response is of great interest. Thermal stresses are present in laminates due to different thermal properties of the adjacent layers and due to change in temperature during the manufacturing processes and/or during service life.

Three dimensional (3D) elasticity solutions based on the solution of partial differential equations (PDEs) with appropriate boundary conditions are valuable because they represent a more realistic and closer approximation to the actual bahaviour of the structures (Tungikar and Rao 1994, Bhaskar and Varadan 1996) but 3D modelling of laminates with a large number of layers becomes intractable due to its complexity. Therefore, researchers have focused their attention on two dimensional (2D) analytical models, viz., classical lamination theory (CLT) (Timoshenko and Woinowsky-Kreiger 1959, Boley and Weiner 1960), first order shear deformation theory (FOST) (Reddy and Chao 1980, Rolfes et al. 1998) and higher-order shear deformation theories (HOSTs) (Khdeir and Reddy 1991, Kant and Khare 1994, Kapuria et al. 2003) for thermal analysis of laminates.

In this paper, a simple and efficient semi-analytical mathematical model is presented for stress analysis of laminated beam under thermal loads. A laminate under plane stress of elasticity is formulated as a two-point BVP governed by a set of coupled first-order ODEs,

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Static Analysis of Multi-layered Smart Laminates in Cylindrical Bending

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[2]Associate Professor, Veermata Jijabai Technological Institute, Wadala, Mumbai – 400031,

Abstract

Displacement and stress analysis of a simply supported smart laminate (layered plate) under plane stress and plane strain conditions of elasticity has been performed with a new mixed Semi-analytical model. The displacements, transverse normal and shear stresses, electric potential and transverse electric displacement have been considered as primary variables. The mathematical model is a two-point boundary value problem (BVP) governed by set of coupled first ordered ordinary differential equations (ODEs). Accuracy and efficiency of the proposed model are assessed by comparing the numerical results obtained from the present investigation with available elasticity solutions.

Keywords: semi-analytical method, laminate, piezoelectricity, smart materials, plane stress, plane strain.

Introduction

In a piezoelectric material, the elastic and electric fields are reversibly coupled and this coupling effect is used in several engineering applications. The direct piezo-effect is used in sensors to infer the mechanical strain in material from induced electric potential. The inverse piezo-effect is used in actuators to control deformations due to static loads and vibrations due to dynamic loads, by applying appropriate electric potential difference. The combined use of sensing and actuating functions leads to development of a smart or intelligent material, which is a self-monitoring, self-controlling material. Use of smart materials is seen by and large in aircrafts and aerospace engineering.

Piezoelectricity was discovered in 1880. However, for a century, it remained to be just a scientific wonder. With the growth in aerospace projects, a need for self-governing materials for unmanned laboratories and unmanned ships grew. Exhaustive research on smart materials began in the decade of 1980. Since then, a substantial number of theories and analytical, numerical models have been reported for the analysis of smart materials. Ray et al. (1992, 1993) have presented three dimensional (3D) exact solutions for a single piezoelectric plate and 3D exact solutions for intelligent structure in cylindrical bending. Heyliger (1994) has obtained exact solution for unsymmetrical cross ply composite laminate attached with layers of piezoelectric material. Heyliger (1997) has also provided 3D exact solutions for single and two layers of piezoelectric materials. Exact solutions obtained by solving field equations are valuable because they represent near accurate response of the member. However, obtaining exact solutions for layered members with complex loading and boundary conditions becomes extremely difficult. Hence the researchers have focused their attention on approximate methods. Tiersten (1969), Lee and Moon (1989), Lee (1990), Dimitridis et al.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Static Analysis of Multi-layered Smart Laminates in Cylindrical Bending

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Abstract

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Experimental Investigation on Magnetic Concrete for Wireless Charging

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Abstract: *This paper proposes methods of predicting and preventing thermal failure within high-power ferrite structures of electric vehicle (EV) wireless charging inductive power transfer (IPT) by improving their ferrite layouts. A high-power IPT magnetic design suitable for wirelessly charging an EV at 50 kW using a heuristic approach is presented where the chosen design achieves reduced heating within the magnetic structure. Recommendations are made that both avoid ferrite fracturing due to magnetic hotspots and cause temperature differentials across ferrite tiles, and regarding airgap distribution between ferrite tiles to reduce loss-inducing circulating flux within the ferrite structure without reducing coupling*

Wireless charging is an attractive option of energy replenishment for electric vehicles (EVs) as it does not require direct electrical contact to the EVs. However, the radiated magnetic field from the EV wireless charging system can be an electromagnetic compatibility (EMC) concern nearby electrical and electronic devices. This paper investigates the influence of the power level, the clearance, and offset between coils on the radiated magnetic field emitted from the wireless charging system. The experimental study shows that these variable parameters can affect the radiated magnetic field level and the field distribution, which provides valuable input for standardization of the test setup and working condition of the EV wireless charging system.

Keywords: electric vehicle

I. INTRODUCTION

The production of magnetic concrete involves integrating soft magnetic components, such as crushed ferrite, iron oxide grains, or scraps of amorphous or nano-crystalline metallic magnetic materials, into a typical cement slurry. This process results in the production of magnetic concrete. This leads to the production of magnetic concrete as a result (cement and water mixed together). In common parlance, this particular mixture is referred to as "magnetic cement mortar,"which is also one of its common names. A certain sort of concrete that exhibits certain magneticproperties can be obtained by first vibrating the mixture, then compacting it, and then allowing it to cure for the desired amount of time.

E-mobility encompasses all forms of automobile transportation, including private auto mobiles, commercial trucks, and most notably buses, and it has the potential to significantly cut down on air pollution in large urban areas. Electric vehicles are the ideal answer to lessen the impact that internal combustion engine vehicles (ICEVs) have on the environment because fuel resources are running out and there is concern for the environment. Charging stations that are able to assure the charging of their batteries at home, in parking lots, while they are on the route, or at depots are required for all of them. The conventional way of conductive charging has several disadvantages, but the novel approach of wireless charging has many advantages.

Limitations of study

Power consumption:

According to the findings of the survey, the typical electronic vehicle has an energy consumption of about 0.2 kilowatt hours per kilo metre. This is a pretty high consumption when considering the amount of power that is necessary to recharge the vehicle.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

EXPERIMENTAL INVESTIGATION OF FLY ASH IRON DUST BLOCKS

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[1]Professor, [2]Student, [3]Student,[4]Student,[5]Student

[1]Civil Department,

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Abstract: The population of India is experiencing rapid growth, leading to increased demand for construction materials. Cement bricks, a common construction material, typically consist of cement, fine aggregate, coarse aggregate, and water. India generates substantial industrial, mining, and agricultural waste, which poses significant environmental challenges due to the space needed for disposal. However, this waste presents opportunities to partially or fully replace traditional materials in construction, such as cement bricks

Index Terms – Fly ash, Iron Dust, Compressive Strength, Prism Test.

I. INTRODUCTION

One abundant waste product is fly ash, which has various applications in construction, including eco-friendly cement production.Utilizing industrial waste as additives or substitutes in construction materials can mitigate environmental harm while reducing material costs. Additionally, incorporating industrial waste improves the physical and mechanical properties of cement bricks.

Research is underway to explore the potential applications of industrial waste, particularly fly ash, in cement bricks. Various blends of fly ash and cement (ranging from 0% to 40% fly ash content) are being tested for compression strength and water absorption to evaluate their suitability for construction purposes. This approach not only reduces cement consumption but also promotes the use of eco-friendly and sustainable resources in construction.

II. PROBLEM STATEMENT

FLY ASH

Every year almost 270 million tons of fly-ash was produced in India in the year 2021-2022. By the year 2025 it is predicted that this number will reach to almost three to four hundred million tons. As we all know, fly-ash endangers the environment in various ways one of which is the large area of land it takes to dispose it. So it is important to use the fly-ash instead of dumping it in various industries.

IRON DUST

Iron ore mining affects the environment in various ways. Apart from air pollution it causes it is necessary to safely get rid of the byproducts it produces. One of the things made from byproducts is iron dust. We use the iron dust in construction industry to replace the fine aggregate used in construction industry. It can also be used to produce bricks alongside fly ash in fly ash bricks. Need arises to study the properties of bricks thus formed.

GIS SCIENCE JOURNAL ISSN NO : 1869-9391

Experimental Investigation for serviceability of ferrocrete slab

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Abstract: This study examines ferrocrete slab load-carrying capability and crack behaviour by replacing fine aggregate with grit. Ferrocrete, made of wire mesh, sand, grit, gravel, water, and cement, is strong and multipurpose. Ferrocrete slabs are 30 mm thick; single and double 6 mm skeletal steel chicken wire mesh reinforces slabs above. Square and rectangular slabs with single and double chicken wire mesh reinforcing with skeleton steel have load deflection curves. All slabs have first and final crack loads. Thus, following characteristics were observed

i. Maximum crack strength
ii. Deflection
iii. Fractures

Keywords: **ferrocrete, slab, flexural test, load Verses deflection, grit, crack.**

1. INTRODUCTION

By inserting coarse aggregate of a certain size, known as grit, we can conduct experiments on these panels. By utilising coarse aggregates of smaller size, the thickness will increase; nevertheless, the load carrying capability will also rise. The flexural behaviour of several panels can be examined. By constructing different-sized panels, we may study and investigate the flexural behaviour and, eventually, the slab panel's service criteria.

The ferrocement roof is better to the A.C. roof. Roofing sheets and metal sheets as seen below: -

1. Ferrocrete can be a monolithic, jointless roof, removing trusses and purlins, nuts and bolts, and joints, as with AC sheet/ Metal sheet roofs.
2. The ferrocrete roof will transfer significantly less heat than the AC sheet/metal sheet roof. It is completely resistant to heat transfer. Jointless ferrocrete roofs limit interior moisture transfer.
3. As a result of the elimination of structural trusses and purlins, there is extra storage space. Due to the monolithic nature of a ferrocrete roof, there are no phenomena such as cracking, leaking of rainfall, or corrosion of nuts and bolts, resulting in minimal maintenance operations. As there are no steel trusses or tubular trusses, the soffit of ferrocrete roofs is neater and cleaner than that of AC sheet/ Metal sheet roofs.
4. Long-term, ferrocrete roofs are particularly cost-effective.
5. Superior performance is achieved via gutters and valleys. Because they are an intrinsic part of the roof.
6. Considering the earlier loss of strength owing to corrosion, the lifespan of tubular truss roofs is substantially shorter.

2. MATERIAL SPECIFICATIONS

The ranges of mix proportions for typical ferrocement applications are 1.5 to 2.5 by weight for the sand cement ratio and 0.35 to 0.5 by weight for the water cement ratio. To retain the same workability, the amount of water must increase in proportion to the sand concentration. Trial batches shall be used to determine the fineness modulus of the sand, the water cement ratio, and the sand cement ratio to ensure a mixture that can infiltrate

JP202324_CI_18

Title of Paper: TRAFFIC CONGESTION CHARGING AND IMPLEMENTATION ISSUES.

TRAFFIC CONGESTION CHARGING AND IMPLEMENTATION ISSUES

Aug 2023
DOI: 10.48047/ecb/2023.12.si5.298

S Dinesh · Mr. Dinesh S. Aswar · Sachin Dadu Khandekar · Show all 5 authors · Supriya K Nalawade

Abstract

Congestion charging can be an effective traffic management tool for reducing traffic congestion. The paper discussed the review of the congestion charging concept, systems, methods and implementation issues. The learning experiences from the congestion charging program are discussed with the case studies. The key factors affecting the congestion charging such as cost efficiency, fairness, loss of privacy, political risks, awareness, equity, end-use of revenue and other relevant associated issues, are also addressed and concluded. These key issues need to be effectively addressed for the success of the scheme. The measures for effective mitigation of the congestion charging implementation risk are also systematically researched and presented. The study also highlights the measures like efficient public transport, allied facilities for improving traffic capacity, effective program management required for success, effectivity and acceptance of the congestion charging program.

JP202324_CO_01

Title of Paper: Bi-GRU-APSO: Bi-Directional Gated Recurrent Unit with Adaptive Particle Swarm Optimization Algorithm for Sales Forecasting in Multi-Channel Retail.

telecom

MDPI

Article

Bi-GRU-APSO: Bi-Directional Gated Recurrent Unit with Adaptive Particle Swarm Optimization Algorithm for Sales Forecasting in Multi-Channel Retail

Aruna Mogarala Guruvaya [1], Archana Kollu [2], Parameshachari Bidare Divakarachari [3,*], Przemysław Falkowski-Gilski [4] and Hiralal Dwaraka Praveena [5]

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Abstract: In the present scenario, retail sales forecasting has a great significance in E-commerce companies. The precise retail sales forecasting enhances the business decision making, storage management, and product sales. Inaccurate retail sales forecasting can decrease customer satisfaction, inventory shortages, product backlog, and unsatisfied customer demands. In order to obtain a better retail sales forecasting, deep learning models are preferred. In this manuscript, an effective Bi-GRU is proposed for accurate sales forecasting related to E-commerce companies. Initially, retail sales data are acquired from two benchmark online datasets: Rossmann dataset and Walmart dataset. From the acquired datasets, the unreliable samples are eliminated by interpolating missing data, outlier's removal, normalization, and de-normalization. Then, feature engineering is carried out by implementing the Adaptive Particle Swarm Optimization (APSO) algorithm, Recursive Feature Elimination (RFE) technique, and Minimum Redundancy Maximum Relevance (MRMR) technique. Followed by that, the optimized active features from feature engineering are given to the Bi-Directional Gated Recurrent Unit (Bi-GRU) model for precise retail sales forecasting. From the result analysis, it is seen that the proposed Bi-GRU model achieves higher results in terms of an R2 value of 0.98 and 0.98, a Mean Absolute Error (MAE) of 0.05 and 0.07, and a Mean Square Error (MSE) of 0.04 and 0.03 on the Rossmann and Walmart datasets. The proposed method supports the retail sales forecasting by achieving superior results over the conventional models.

Keywords: Bi-Directional Gated Recurrent Unit; Minimum Redundancy Maximum Relevance; Particle Swarm Optimization Algorithm; Recursive Feature Elimination; retail sales forecasting

check for updates

Citation: Mogarala Guruvaya, A.; Kollu, A.; Divakarachari, P.B.; Falkowski-Gilski, P.; Praveena, H.D. Bi-GRU-APSO: Bi-Directional Gated Recurrent Unit with Adaptive Particle Swarm Optimization Algorithm for Sales Forecasting in Multi-Channel Retail. *Telecom* **2024**, *5*, 537–555. https://doi.org/10.3390/telecom5030028

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1. Introduction

Retail sales forecasting is one of the important factors in E-commerce companies due to the economic hardship and strong competition [1]. A good sales forecasting makes an efficient production plan, increases the revenue from sales, and improves the satisfaction of customers. The timely and effective forecasting model is an indispensable and crucial tool for handling the inventory level [2,3], whereas the inappropriate forecasting model results in insufficient or redundant stock that directly affects the competitive advantage and income [4]. In the recent decades, the researchers have introduced many analytical and

statistical regression models for resolving the concerns of retail sales forecasting [5,6]. The

JP202324_CO_02

Title of Paper: An Improved Multi-objective Optimization Framework with a Hybrid Model for Vehicular Adhoc Network Routing Services.

An Improved Multi-objective Optimization Framework with a Hybrid Model for Vehicular Adhoc Network Routing Services

| Research | Published: 12 August 2024

| Volume 138, pages 1–28, (2024) Cite this article

Madhuri Badole, Anuradha Thakare & Diego Oliva

Abstract

A vehicular ad hoc network (VANET) includes groups of stationary or moving vehicles linked by a wireless network. The significant usage of VANET is to offer comfort and safety to drivers in road environments. VANET provides a communication framework that aids in minimizing accidents. Also, sharing data in VANET is time-sensitive and necessitates vigorous and quick network link formation. However, appropriate routing is critical to avoid the streaming issues that occur in VANET applications. This research area is of great concern to the researchers, and this work intends to propose a new Cluster-based VANET routing

JP202324_CO_03

Title of Paper:Strengthening Sentence Similarity Identification Through OpenAI Embeddings and Deep Learning.

DOI: 10.14569/IJACSA.2024.0150485

PDF

Strengthening Sentence Similarity Identification Through OpenAI Embeddings and Deep Learning

Author 1: Nilesh B. Korade Author 2: Mahendra B. Salunke Author 3: Amol A. Bhosle Author 4: Prashant B. Kumbharkar Author 5: Gayatri G. Asalkar Author 6: Rutuja G. Khedkar

International Journal of Advanced Computer Science and Applications(IJACSA), Volume 15 Issue 4, 2024.

Abstract and Keywords | How to Cite this Article

Abstract: Discovering similarity between sentences can be beneficial to a variety of systems, including chatbots for customer support, educational platforms, e-commerce customer inquiries, and community forums or question-answering systems. One of the primary issues that online question-answering platforms and customer service chatbots have is the large number of duplicate inquiries that are placed on the platform. In addition to cluttering up the platform, these repetitive queries degrade the content's quality and make it harder for visitors to locate pertinent information. Therefore, it is necessary to automatically detect sentence similarity in order to improve the user experience and quickly match user expectations. The present study makes use of the Quora dataset to construct a framework for similarity discovery in sentence pairs. As part of our research, we have built additional attributes based on textual data for improving the accuracy of similarity prediction. The study investigates several vectorization methods and their influence on accuracy. To convert preprocess text input to a numerical vector, we implemented Word2Vec, FastText, Term Frequency-Inverse Document Frequency (TF-IDF), CountVectorizer (CV), and OpenAI embedding. In order

JP202324_CO_04
Title of Paper: Cutting-Edge Neural Network for Early Cardiovascular Disease Prevention.

International Journal of Intelligent Systems and Applications in Engineering
IJISAIISAE
ISSN: 2147-6799

HOME / ARCHIVES / VOL. 12 NO. 3S (2024) / Research Article

Cutting-Edge Neural Network for Early Cardiovascular Disease Prevention

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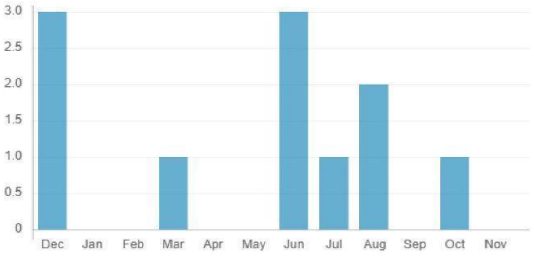
Keywords: Cardiovascular diseases, Machine Learning, Deep Neural Network, Prediction, Prevention

ABSTRACT

Cardiovascular diseases (CVD) are common and life-threatening, requiring early detection to reduce mortality. This study presents an efficient system for predicting and preventing CVD. It utilizes a hybrid dataset from various sources datasets, preprocesses them. Feature selection methods like ANOVA and CHI2 enhance prediction accuracy. The Class Balanced Feature Selection Deep Neural Network model is an enhanced deep neural network that incorporates balanced data and utilizes a prominent feature selection technique. Multiple classifiers, including Naïve Bayes, Decision Tree, CBFS-DNN, SVM, Random Forest, and KNN are trained on the hybrid dataset using the selection of features and class balancing. The DNN with CHI2 selection achieves an impressive 99.79% accuracy, demonstrating high Precision, Recall, and 97.3%, 97.2%, and 97.2%, respectively, for the F1 Score.

DOWNLOADS



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JP202324_CO_05

Title of Paper: Optimizing Data Extraction using Preprocessing for Enhanced Efficiency.

Keywords:
Deep Web, Information extraction, Surface Web, Web mining, Wrapper induction.

Santosh V. Chobe, Swati Nikam

Abstract

With the exponential growth of the internet, an abundance of information has become readily available. Extracting valuable data from the web is crucial for applications such as meta-querying and comparison shopping. However, the heterogeneous nature of web information poses a significant challenge to the extraction process. The web can be classified into the surface or visible web and the deep or invisible web. While conventional search engines can index the surface web, they fall short when it comes to the deep web.

To access the deep web, users must submit queries to web databases, and the results are encapsulated in dynamically generated web pages containing data records. Traditional search engines struggle to index these dynamic pages, necessitating a specialized program for efficient information extraction from the deep web. Web search engines generate result pages based on user queries, making it crucial to automatically extract data from these pages for various applications.

In this context, we propose an innovative data extraction method called Effective Data Extraction using Preprocessing (EDEP). The EDEP approach begins by parsing the input HTML page, constructing a tag tree, and subsequently eliminating irrelevant tags from the tree. Notably, our system efficiently handles scenarios where auxiliary information, such as recommendations or comments, is intermixed between query result records (QRRs), causing them to be non-contiguous. EDEP also effectively manages result pages containing single QRRs.

Through experimental results, it is evident that EDEP outperforms existing data extraction methods, showcasing its efficacy in handling the complexities associated with web data extraction.

Issue

Vol. 27 No. 3 (2024) (https://internationalpubls.com/index.php/anvi/issue/view/68)

Section

Articles

Announcements

Call for Papers

Call for Papers for the Upcoming Issue.

JP202324_CO_06

Title of Paper: Evaluation of the extent and demanding roles of ethical hacking in cybersecurity.

Evaluation of the extent and demanding roles of ethical hacking in cybersecurity

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Jambi Ratna Raja Kumar · D. G. Bhalke · Swati yeshawant Nikam · Show all 6 authors · Kiran Kale

Abstract and figures

p>A permitted effort to acquire unlawful connection to computing systems, programs, or information is referred to as ethical hacking. Software developers must check for flaws, compartment focus, define needs and objectives, and create a method that makes the most of their resources. The rationale for this kind of vulnerability evaluation has a direct impact on the overall assessment's estimate. More specifically, it is known that technological gadgets are necessary to prevent computer criminals from breaking into web applications to control their operations and gain access to confidential knowledge for unintended objectives. This research study provides an analysis to determine the scope and challenging responsibilities of ethical hacking employed in cyber security. Network monitoring is a legitimate need in which authorized developers attempt to breach a company's frameworks or arrangements for the convenience of the owners to uncover security flaws. It provides information on how organizations may use computer forensics, such as vulnerability assessments using open-source devices, to safeguard their program's administrators and operations. Numerous tools have been explored for security auditing of the networks which involves Nmap, Nessus, Brutus, Acunetix, etc. As a result, safeguards were put in place to identify these flaws and protect sensitive data from cyber-attacks. Ethical hacking has a bright future for detecting system or application vulnerabilities effectively. Nevertheless, tools utilized in the cyber security field for network or computer application secrecy have some limits namely growing com

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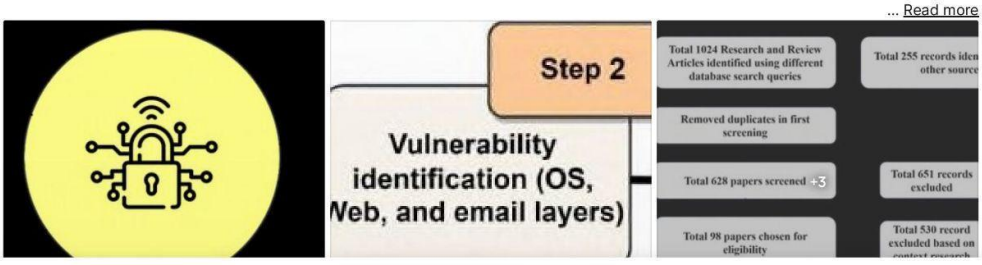


Keywords:
Quantum computing, Cryptographic security, Post-quantum cryptography, Shor's algorithm, Encryption vulnerabilities.

Swati Dixit, Ujwal Ramesh Shirode, Santoshkumar Vaman Chobe, Swati Nikam, Yogita D. Bhise

Abstract

Quantum computing is a big change in the way computers work, and it promises to be much faster than traditional systems. This new technology brings both huge benefits and huge problems, especially when it comes to cryptographic security measures. Classical encryption algorithms, like RSA and ECC, depend on the fact that some math problems are hard, like discrete logarithms and integer factorization. Quantum algorithms, like Shor's algorithm, can solve these problems quickly. Because of this, the development of scalable quantum computers poses a danger to the basic safety of the cryptography methods that are widely used today. This short summary looks at the big effects that quantum computing will have on the safety of cryptography. It looks at the security holes that quantum algorithms create and stresses how important it is to find answers for post-quantum cryptography (PQC). PQC wants to make programs that can't be broken by quantum attacks. This will make sure that digital interactions can still be private, secure, and real in a world powered by quantum computers. Also, switching to PQC comes with a lot of problems, such as implementing algorithms, making sure they are all the same, and getting people to use them in a lot of different technology environments. The abstract talks about current research projects and foreign partnerships that aim to standardize and implement PQC. It stresses how important it is to plan ahead to reduce the risks of the future.

Issue

Vol. 27 No. 3 (2024) (https://internationalpubls.com/index.php/anvi/issue/view/68)

Section

Articles

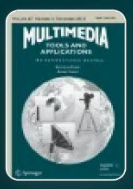
JP202324_CO_08

Title of Paper: An IoT enabled healthcare framework for arrhythmia detection based on Qos aware trust aided osprey routing protocol and ensemble learning.

An IoT enabled healthcare framework for arrhythmia detection based on Qos aware trust aided osprey routing protocol and ensemble learning

| Published: 07 December 2023

| Volume 83, pages 55235–55257, (2024) Cite this article



Vijay A. Kotkar, Avinash L. Golande, Kirti V. Deshpande, Makarand Shahade & Vinodkumar H. Bhutnal

Abstract

An electrocardiogram (ECG) is frequently used to assess heart state, which can guide more research into cardiac problems and identifying heart illnesses. The method is easy, quick, and non-intrusive. However, manually analyzing the ECG data takes time, making it difficult to identify and classify arrhythmia manually. The service of healthcare industries has become more effective and of higher quality due to integrating IoT elements into medical

JP202324_CO_09
Title of Paper: A Review of Techniques and Applications for Machine Learning and Deep Learning.

International Journal of Intelligent Systems and Applications in Engineering
IJISAIISAE

A Review of Techniques and Applications for Machine Learning and Deep Learning

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Keywords: Machine Learning, Deep Learning, Artificial Intelligence, Revolutionary Technologies

ABSTRACT

Deep learning and machine learning have quickly become extremely potent instruments in a variety of domains, such as speech and picture identification, natural language processing, and even medical. We present an overview of machine learning and deep learning techniques and applications in this post, including their advantages and disadvantages, as well as possible future paths. We also talk about the difficulties posed by these technologies, such as the necessity for decision-making to be transparent and the privacy of personal data as well as ethical issues. In the realm of artificial intelligence, two of the most innovative technologies are machine learning and deep learning. Their capacity to provide forecasts, evaluate enormous datasets, and offer insights that were previously unattainable has led to their rising popularity in recent years. This article will explore the basics of machine learning and deep learning, their differences, applications, and their impact on various industries. Machine learning and deep learning are transforming the way we interact with technology and unlocking new possibilities for innovation. These technologies have already made significant impacts in various industries and have the potential to continue to revolutionize the world. This article provides a comprehensive overview of the basics of machine learning and deep learning, their differences, applications, and their impact on society. With a focus on current literature and research, this article aims to provide a better understanding of the potential of machine learning and deep learning and their implications for the future.

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Title of Paper: Quantum-inspired adaptive loss detection and real-time image restoration for live optical quantum image transmission.

Quantum-inspired adaptive loss detection and real-time image restoration for live optical quantum image transmission

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Source OPTICAL AND QUANTUM ELECTRONICS
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Document Type Article

Abstract Maintaining image fidelity during transmission is challenging for live optical quantum image transmission. This paper introduces a novel "Quantum-Inspired Adaptive Loss Detection and Real-time Image Restoration" approach. The method incorporates adaptive loss detection and real-time restoration techniques, drawing inspiration from quantum principles to model the optical quan… environment. The core innovation is a near-to-far continuous approach adapted to the quantum environment's dynamics,

JP202324_CO_11

Title of Paper: Detection of dental periapical lesions using retinex based image enhancement and lightweight deep learning model.

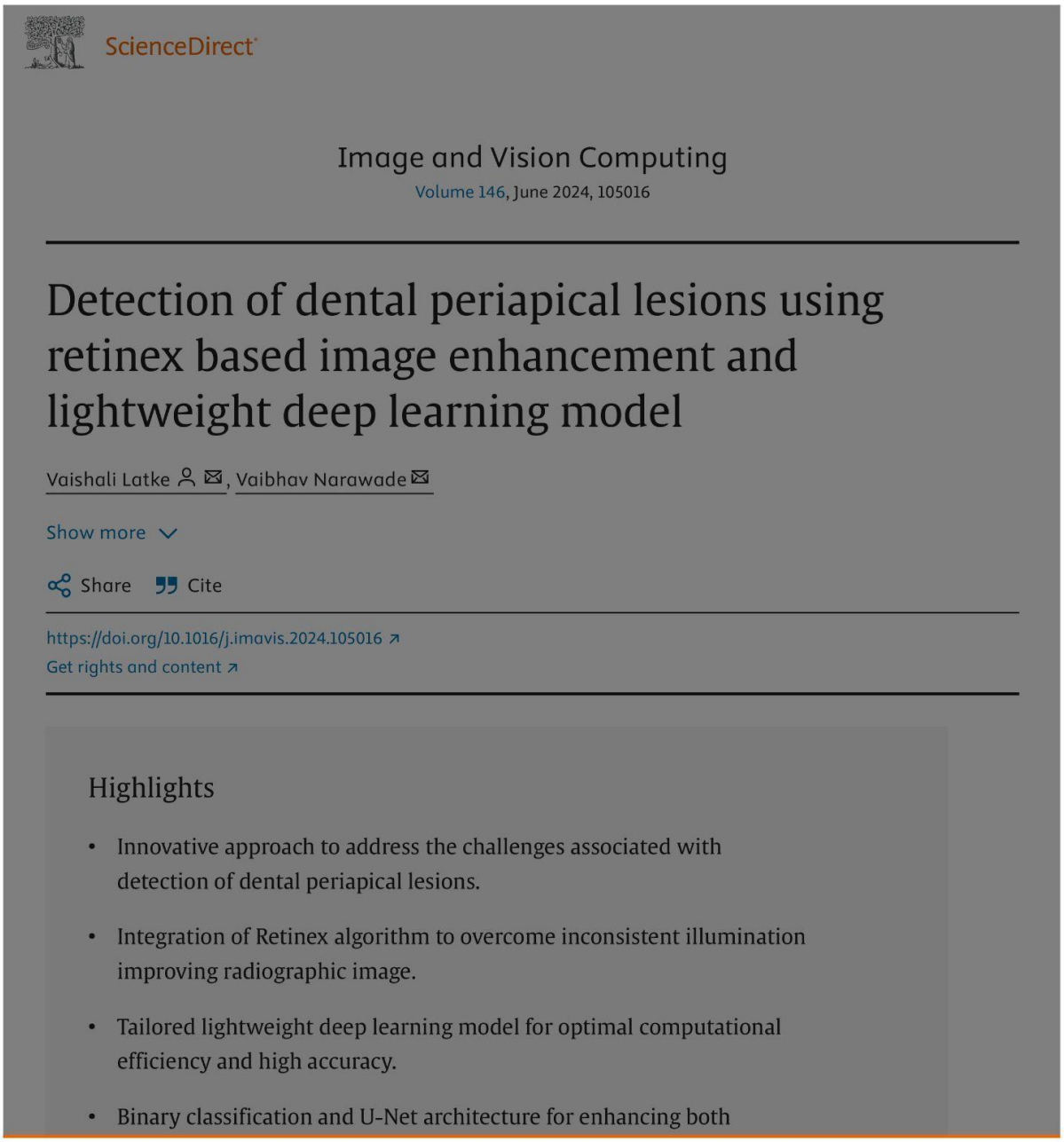

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Image and Vision Computing
Volume 146, June 2024, 105016

Detection of dental periapical lesions using retinex based image enhancement and lightweight deep learning model

Vaishali Latke, Vaibhav Narawade

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Highlights

- Innovative approach to address the challenges associated with detection of dental periapical lesions.
- Integration of Retinex algorithm to overcome inconsistent illumination improving radiographic image.
- Tailored lightweight deep learning model for optimal computational efficiency and high accuracy.
- Binary classification and U-Net architecture for enhancing both

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Establishing system for an Alumni Engagement and On-Campus Company Insights

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Abstract - *This paper presents a comprehensive system for alumni engagement and on-campus company insights at Pimpri Chinchwad College of Engineering and Research (PCCOER). Leveraging technologies like Google Firebase, the system facilitates alumni connections, on-campus company insights, and personalized recommendations for students based on their engineering stream. Inspired by the Centralized Alumni Management System (CAMS), it incorporates alumni registration, verification, and networking features, fostering seamless connections between current students and graduates. Additionally, the system integrates elements of CAMS' mentorship process, enabling mentorship opportunities between alumni and students. Dynamic blogs covering technology trends, industry insights, and on-campus company visits enrich the academic journey, while timely notifications about on-campus company drives keep students informed. Previous year college placement data, managed by administrators, provides valuable insights into placement trends. Overall, the system enhances student engagement, fosters collaborative learning, and contributes to higher rates of successful placements for PCCOER students.*

Key Words: **Alumni engagement, Pimpri Chinchwad College of Engineering and Research (PCCOER), Google Firebase, Personalized Blog recommendations, Oncampus company Drives Notifications, Administrators, Share Thoughts.**

I.INTRODUCTION

In today's ever-changing educational environment, maintaining alumni connections and gaining insights into oncampus industry happenings are vital for student success. This paper introduces an innovative system developed at Pimpri Chinchwad College of Engineering and Research (PCCOER) using Google Firebase technology. It serves as a bridge between students and alumni, offering tailored guidance and real-world career perspectives. Through dynamic blogs covering emerging technology trends and industry insights, students are engaged in an enriching learning experience. This paper outlines the system's development process, its functionalities, and the positive impact it has on student academic and career outcomes.

II. Objectives

- Alumni Connection: Develop an alumni engagement portal to facilitate alumni connections with PCCOER, enabling them to create profiles, connect with fellow alumni, and engage with the institution for mentorship, guidance, and support.
- Improve Placement Outcomes: Empower students with access to previous year college placement data, enabling them to identify trends, give information through blogs about different on campus company pattern, benchmark their performance, and strategize effectively for future opportunities.
- On-Campus Company Experience Blogs: Create a dynamic blog-like section where students can access on-campus company information and their exam pattern, selection process, and work culture from alumni. Implement keywordbased content filtering to ensure the quality and relevance of shared content.
- On-Campus Company Drive Notification: Introduce a notification session that aggregate real-time job from various domains managed by College Placement Officer.
- Placed Student Information: Platform shows placed student photo, name, company name information. These motivate student and help to directly react out with alumni for specific information related with drive.
- Personalized Recommendations: Implement a recommendation system that tailors content suggestions to individual students based on their engineering stream for enhancing their academic and career preparation.
- Student Showcase Platform through tweets: Create a dedicated space for students to share their certification, achievements, projects, and thoughts with the wider student community.

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Title of Paper: Sentiment Analysis in Financial Markets.

International Journal of Innovative Science and Research Technology

Published February 10, 2024 | Version v1

Journal article Open

Sentiment Analysis in Financial Markets

Ashwini K. Bhavsar ; Tejaswini H. Gavhane

Moving ahead in this era of data, there is a lot of information, which if used in the right way, can be used in the financial domain as well, to determine the market. This prediction can lead to large profits and help in understanding the complex financial markets. Sentiment analysis is a kind of data mining technique, which can be used to process and understand the textual content to derive meaningful insights. In this paper, for the purpose of sentiment analysis, natural language processing will be used, which is the area of machine learning in the rise. The techniques will be applied here onto a large dataset from Twitter and hence, analyse the public opinions about the financial markets.

Keywords:- Predicting finances, Natural Language Processing(NLP),Financial Markets, Analysis of Sentiments, Mining Text.

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In Association with
International Journal of Scientific Research in Science, Engineering and Technology
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Application to Help the Visually Impaired By Converting Images to Audio Descriptions

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ABSTRACT
In a world increasingly reliant on visual information of the surroundings, visually disabled people usually face significant challenges in their daily lives even for simple tasks. The absence of real-time, environment-apprehensive audio descriptions of their environment hinder their mobility and therefore they struggle to engage with the world, unlike other humans. This application design aims to develop an innovative AI-powered application to bridge this availability gap and increase their quality of life. The primary functionality of this operation is based on using state-of-the-art image recognition technology to give visually impaired individuals accurate and intuitive audio descriptions of their immediate surroundings. By using artificial intelligence power, this application aims to deliver real-time, detailed, and user- friendly information in audio format about objects and other applicable visual essentials within the user's surroundings.
Keywords:

I. INTRODUCTION

Visually impaired individuals often encounter barriers to independent mobility and participation in daily life due to the lack of accessible tools that provide real-time, context-aware descriptions of their surroundings. Our application tends to revolutionize their interaction with the visual world by converting the images into audio descriptions. Taking advantage of advanced algorithms and user-friendly usage, our application encourages to enrich the standard of living for the visually impaired fostering independence and facilitating an inclusive world.

II. METHODOLOGIES

A. Image Processing

Image processing acts as a virtual seeing-eye canine for the visually impaired, wielding the energy of cameras to bridge the visual gap. This record is then translated into a consumer-friendly layout, be it clean audio descriptions, intuitive vibrations on a hand-held device, or even tactile maps for spatial knowledge. Imagine a visually impaired individual being capable of independently examining store signs and symptoms or perceiving items on cabinets – this era empowers exploration and fosters an experience of independence. As algorithms end up extra sophisticated, destiny promises even richer studies. We can assume real-time scene evaluation

Distinct Word Sense Disambiguation Approaches for Marathi Language

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ABSTRACT

Word Sense Disambiguation is a linguistic computational process that identifies exact meaning of words based on the context. There are various ambiguous words in Marathi language which need to be addressed while processing Marathi language. It is essential to handle ambiguity for such Marathi words which is used as intermediate step for applications like Information Retrieval, Text Summarization, Machine Translation, Lexicography, Information Extraction, Text Mining and Question Answering, etc. These tasks require appropriate understanding of a Marathi linguistics. Different techniques available in Natural Language Processing for performing sense disambiguation of words. WSD major solutions are classified as supervised and rule-based approaches. In this research article, various WSD approaches presented by the researchers for Marathi language are discussed.

KEYWORDS *: Natural language, Word sense, Disambiguation, Marathi language, Ambiguity.*

INTRODUCTION

In recent times, the internet has changed from being monolingual; regional language content has grown extensively. A lot of research has been conducted to make easier for users to interact with computers in region specific natural languages. Language processing techniques are broadly explored for English language. However, moderate work has been reported for Indian languages, as they are rich in morphology and complexity in structure.

Machine Translation, grammatical tagging, Sentiment Analysis, and Named Entity Recognition are the main activities focused on Indian Regional languages. Machine translation is the technique of utilizing artificial intelligence to automatically convert text from a single language to the other without the assistance of a human. A tag is assigned to each word in a sentence that specifies its relevant part of speech in POS Tagging. The proper names in documents are identified in Named Entity Recognition and then names are classifies into sets of predefined categories as per interest. There is an ancient and morphologically distinct range of regional languages in India. Using common ASCII codes, data expressed in English is easier for computer processing than data represented using different regional natural languages. Also recently, code-mixed communication is a method of talking with people in short bursts of text as well as efficiently conveying one's own views. Along with Word Sense Disambiguation for Marathi words, WSD system is an essential intermediate step for code mixed machine translation.

A word sense disambiguation (WSD) system is an essential component of any such processing that is being built. The procedure of mapping an ambiguous word with particular context to its proper meaning is known as word sense disambiguation. Ambiguous words like 'bank', 'play', "पूर्व" , 'कर', 'पान', etc. has the same lexeme but different meanings. Example, a word 'पान' (paan) in Marathi language, the official language of Maharashtra, India has many meanings depending on context. Let's consider sentences "झाडाचं पान पिवळ्या रंगाचं आहे." and "वहीचं शेवटचं पान कोरं आहे." Sense of word "पान" in the first sentence refer to leaf of tree and the sense of the same word in the second sentence refers to a page of book.

This paper reviews various techniques and approaches for Word sense disambiguation for Marathi language. The subsequent portions of this paper have been

Title of Paper: Language Identification and Transliteration approaches for Code-Mixed Text.

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Research Article

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Language Identification and Transliteration approaches for Code-Mixed Text

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Received 24October 2023; Accepted 11January 2024

Abstract

People have become part of the digital era with the advent of the Web. They actively create, share, a variety of content on the web. Unlike earlier days, people widely use different social platforms to talk about their interests, hobbies, reviews on movies, and purchased items in natural language. Processing such natural languages with mixed language tasks is challenging. A sizable proportion communicates in regional language but using code-mixed and script like Roman and Devnagari for English and Marathi language. These texts are generally informal, causal, short length, non-standard spelling alteration etc are prime challenges in language processing. Language identification in mixed text is challenging, since the Romanized string of several languages is comparable. Mixed text is essential to transform into native script for further processing like Information Retrieval, machine translation, Question Answering etc. Due to the lack of orthography of Latin script in Marathi, language modelling, and identification of mixed text is a challenging issue. Many NLP (Natural Language Processing) applications ranging from machine translation and information retrieval uses Machine transliteration as input mechanism for non-roman script. In this paper, different techniques and various approaches presented by the researchers for code-mixed language, Indian regional languages processing are discussed. The tasks like language identification, transliteration, Named Entity Recognition are reviewed with respect to Statistical, Rule and Neural based approaches.

Keywords: Language Identification, Transliteration, Natural Language Processing, Indian regional languages, Code-Mixed Text.

1. Introduction

People use colloquial language using mixed language and script to express them. Recently, the majority of research on social media texts was conducted in English. But today a remarkable percentage of articles, posts, and news are in languages other than English. Many times people prefer to use their local language to express their views, and comments along with the English language. This text might be a combination of local language script along with Roman Script. Data generated on digital media needs linguistic analysis and tools for understanding data especially when text is Code-Mixed. These texts are generally informal, casual, and short in length, non-standard spelling differences, generating major challenges in processing [1]. Text-to-speech conversion, Chatbot, Sentiment Analysis, Language Recognition, Spelling checking, e-medical records summarization, and many other applications are being developed to handle natural languages for real-time requirements. This paper addresses code-mixed text written in Marathi and English. Marathi is an official language of India, spoken largely by people living in the state of Maharashtra. When the script of one language is applied for writing another one, the result is a code-mixed language. The main task with such mixed text is to determine the language used for every word for further process.

Consider a following code-mixed sentence:

"kalcha movie khup सुंदर होता, tu pan bagh nakki"

The above sentence is an example of Marathi-English code-mixed text. English words are used together with Marathi words. 'movie' is an English word, kalcha, khup, tu, pan, bagh, and nakki are Marathi words written in Roman script, and 'सुंदर' and 'होता' are Marathi words in Devnagari script. Code-mixed data should be processed for further analysis. It needs to be transliterated into a single script and understanding code at the semantic level is very important for information retrieval, knowledge acquisition, semantic interpretation, etc. Each word should be correctly transliterated with its correct sense. This paper discusses different issues of language identification and transliteration, back transliteration of Indian Mixed-code text.

For Example:

Table 1. Mixed-code Indian language

Mixed Code Sentence	Language	Script
Mazya kadil tulshichi pane ashi pivalsar hotahet ani tyavar black dots yetahet. Kashyamule asave ani upay kay karava?	Marathi	Roman
mera naam Raju hai. mai ek computer engineer hue.	Hindi	Roman

In Table 1, mixed-code sentences consist of some words are English words, many are Marathi words written in Roman script, but the language of these sentences is Indian. Here, only two languages are considered for example

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Data Acquisition system for Vehicle using IoT based devices

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Abstract

This research paper presents the design, implementation, and evaluation of a data acquisition system (DAS) leveraging a gyro sensor, microcontroller, and Processing sketch. The integration of these components aims to develop a versatile system capable of capturing, processing, and visualizing rotational data in real-time. Gyro sensors, known for their ability to measure angular velocity and orientation, serve as the primary sensing element, enabling precise motion tracking and analysis. The microcontroller acts as the central processing unit, facilitating data acquisition, sensor interfacing, and algorithm execution. Additionally, the Processing sketch provides a platform for intuitive data visualization and interpretation. The proposed system holds promise for various applications including motion analysis, gesture recognition, virtual reality interaction, and biomedical engineering. Through experimentation and evaluation, this research investigates the feasibility, performance, and potential applications of the developed data acquisition system, contributing to the advancement of sensor-based data processing and analysis technologies.

Introduction

Roll, pitch, and yaw are fundamental terms used to describe the orientation of an object in three-dimensional space, commonly applied in aviation, robotics, and video game development. Roll refers to the rotation around the longitudinal axis of an object, typically depicted as tilting from side to side, akin to the motion of a rolling pin. Pitch involves rotation around the lateral axis, causing the object to tilt up or down, resembling the movement of nodding one's head. Yaw pertains to rotation around the vertical axis, producing a twisting motion like turning a steering wheel left or right.

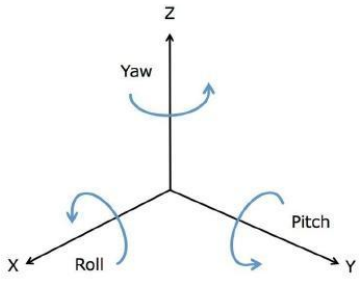

Figure 1 : Representation of roll , pitch , yaw in respective axis

Mukt Shabd Journal **ISSN NO : 2347-3150**

Techniques for Safe Data Sharing and Storage in Cloud Environment to Protect Data

Ankita Jamdade[1], Siddhi Shukla[2], Radha Kharwade[3], Shreya Dhumal[4], Priyanka Abhale[5], Priyadarshani Doke[6]
Department of Artificial Intelligence and Data Science, Savitribai Phule Pune University

Abstract:-

In the era of digital transformation, organizations increasingly rely on cloud computing for efficient data storage and collaborative workspaces. However, this convenience comes with a growing concern for data security and protection. This project's abstract highlights the need for and approach to addressing these issues. This endeavor emphasizes robust encryption, access controls, and key management to protect data at rest and in transit. Authentication, restrict unauthorized use. The project also incorporates data backup and recovery procedures to ensure data availability even in the face of unforeseen incidents. To achieve compliance with data protection regulations, such as GDPR and HIPAA, a strong emphasis is placed on data privacy and security auditing. An incident response plan is established to swiftly address any security breaches. User education and awareness are vital components of the project to minimize human error-related security incidents. Furthermore, monitoring, real-time alerts, and comprehensive data classification strategies contribute to the project's success. By successfully implementing these measures, the project will enhance data security, improve user trust, ensure data privacy compliance, and provide efficient, secure data sharing within and outside the organization.

Keywords: Cloud Computing, Data privacy, Data Protection, Cryptography, IoT

Decentralization of Identity using Ethereum and IPFS

(https://internationalpubls.com/index.php/cana/issue/view/59)

PDF (https://internationalpubls.com/index.php/cana/article/view/917/677)

DOI: https://doi.org/10.52783/cana.v31.917 (https://doi.org/10.52783/cana.v31.917)

Keywords:
SSI, IPFS, ZKP, Zk-SNARK, Ethereum, Metamask

Shailaja Lohar, S. D. Babar, P. N. Mahalle

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Title of Paper: Energy-efficient resource allocation over wireless communication systems through deep reinforcement learning.

International Journal of Communication Systems / Volume 38, Issue 1 / e5589

RESEARCH ARTICLE

Energy-efficient resource allocation over wireless communication systems through deep reinforcement learning

Kirti Shukla, Archana Kollu, Poonam Panwar, Mukesh Soni, Latika Jindal, Hemlata Patel, Ismail Keshta, Renato R. Maaliw III

First published: 21 August 2023
https://doi.org/10.1002/dac.5589
Citations: 2

Summary

As the popularity of the Internet of Things (IoT) increases, so do the energy requirements of IoT terminal equipment. To address the energy shortage problem of equipment and ensure continuous and stable operation in light of renewable energy and an uncertain environment, a rational and efficient energy allocation strategy is required. This paper proposes a deep reinforcement learning energy allocation strategy that uses the DQN algorithm to directly interact with the unknown environment. The best energy allocation method is independent of environmental knowledge, and a pretraining algorithm is proposed to maximise the initialization state of the strategy. Experiments of comparison and simulation are conducted under various channel data circumstances. Results indicate that the proposed energy allocation strategy outperforms the current strategy in multiple channel conditions and has a high capacity for adaptation to changing conditions.

DATA AVAILABILITY STATEMENT

Research data are not shared.

REFERENCES

JP202324_CO_22

Title of Paper:Enhancing Endodontic Precision: A Novel AI-Powered Hybrid Ensemble Approach for Refining Treatment Strategies

International Journal of Intelligent Systems and Applications in Engineering
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Enhancing Endodontic Precision: A Novel AI-Powered Hybrid Ensemble Approach for Refining Treatment Strategies

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Keywords: Endodontic treatments, Root canal curvature, Artificial intelligence (AI), Hybrid ensemble classifier

ABSTRACT

Root canal curvature and calcification present challenges during root canal treatment, increasing the risk of procedural mishaps. These factors can jeopardize the management of intra-radicular infection leading to unfavourable treatment outcomes. The present research introduces an innovative approach that utilizes artificial intelligence (AI) to enhance endodontic treatments. The study focuses on the development of a hybrid ensemble classifier, which combines multiple classification algorithms. By harnessing the strengths of these algorithms, the hybrid ensemble classifier improves the accuracy and robustness of classifying various endodontic challenges. The research also incorporates image segmentation techniques to isolate specific regions of interest, including teeth and roots, for further analysis. The segmentation process involves contrast enhancement, adaptive thresholding, contour detection and root segmentation. Through experimentation, the proposed approach demonstrates notable improvements in precision, recall, F1-score, accuracy and overall performance, ultimately refining endodontic treatments. The findings of this research contribute insights and advancements to treatment planning and decision-making processes in the field of endodontics, providing promising avenues for improving the management of endodontic treatments and achieving better treatment outcomes.

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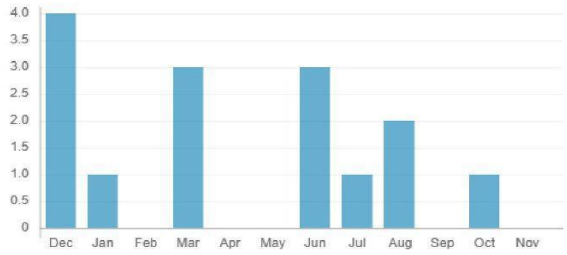

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IJISAIISAE

Student Engagement Monitoring in Online Learning Environment

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Keywords: Online Monitoring, Face Recognition, Student Engagement

ABSTRACT

Students engagement is one of the most important factors in student achievement. Many schools are aware of this and have initiated programs to monitor how engaged students are in school. Tracking student engagement not only helps teachers assess their teaching methods, it also helps administrators know which aspects of the school environment need more attention. In order to measure student engagement, many schools can incorporate systems that track a child's response time during individual lessons. We all know that the internet has changed education forever, and for the better. An accessible online world has allowed students to learn at their own pace in a more natural environment with new opportunities for collaboration, creativity, and growth. But what is not commonly understood is just how crucial student engagement on an online course can be to its success. Student engagement is fundamental to educational success. Engagement monitoring can help identify what students find interesting and engaging in the classroom, what they want, what makes them uncomfortable, and what they need.

DOWNLOADS

JP202324_CO_24

Title of Paper: Enhanced Phishing Website Detection :Leveraging Random Forest and XG Boost Algorithms with Hybrid features,

Volume 8, Issue 7, July – 2023 International Journal of Innovative Science and Research Technology
ISSN No:-2456-2165

Enhanced Phishing Website Detection: Leveraging Random Forest and XGBoost Algorithms with Hybrid Features

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Abstract:- Phishing technique is used by hackers or attackers to scam the people on internet into giving private details such as login credentials of various profiles, social security numbers (SSNs), banking information, etc. Attackers disguise a webpage as an official legit website. Blacklist or whitelist, heuristic, and visual similarity-based anti-phishing solutions are unable to detect zero-hour phishing assaults or newly created websites. Older methods are more complex and not suitable for day-to-day scenarios since they rely on external sources such as search engines. As a result, finding newly constructed phishing websites in a real-time context is a significant hurdle in the field of cybersecurity. This paper presents a hybrid feature-based anti-phishing approach that nullifies these problems by extracting characteristics from URL and hyperlink data that is only available on the client side. Also, a brand-new dataset is created for experiments employing well-liked machine-learning classification techniques. Our experimental findings dictated that the presented random forest-based phishing website detection approach is more effective and gives a higher accuracy result of 96.81% with the blend of the XG Boost technique.

Keywords:- *Cybersecurity, Phishing Detection, Machine Learning, Hyperlink Feature, URL Feature, Anti-Phishing, XG Boost, Hybrid Feature.*

I. INTRODUCTION

In 2022 alone, about 69% of the world's population, actively used the internet. This shows that number of internet users will keep on increasing in the coming times. In the field of cybersecurity, phishing is currently one of the most serious and dangerous online threats [1]. The rapid advancement of Internet technology has greatly boosted the use of social media, online banking, e-commerce services, and other similar services. In 2022, 166,187,118 harmful email attachments were stopped by Kaspersky Mail Anti-Virus. Aims to click on phishing URLs were blocked 507,851,735 times by our anti-phishing system. The takeover of a Telegram account was related to 378,496 attempts to click on phishing URLs. According to "A Digital Report in 2021" data from We Are Social (Global Overview Report 2021) [2], there are 4.66 billion internet users worldwide, up 7.3 percent (316 million additional users) from January 2020. Internet penetration currently stands at 59.5 percent, which gives phishing attackers the chance to profit by extorting and stealing private data from online users [3]. The attacker creates a fake website and distributes links via emails, Facebook, Twitter, and other social media applications. When a user unknowingly opens the link and changes or fills in any sensitive and private credentials, attackers obtain access to the user's information such as financial information, personal information, login credentials, and so on. Cybercriminals utilize stolen information for a range of illicit actions, including blackmailing victims. Consumers fall prey to phishing mainly because of the following reasons:

- User's understanding of URLs is generally poor
- Visitors do not know which websites to believe.
- Redirected, shorten URLs or hidden URLs prevent users from seeing the full address of the web page.
- Users do not have much time to look up a URL fast or unintentionally reach certain online pages.
- Consumers lack the ability to discern the difference between trustworthy and counterfeit websites.

Phishing assaults are now being used to distribute dangerous software such as ransomware. So, in this work, we concentrate on efficiently identifying phishing websites to prevent unaware internet users from falling victim to phishers and thereby lessen the emotional and financial damages. As of today, everything in our day-to-day lives is now digitally stored as data and the formally actionable insights that can be extracted are the reason to provide intelligent solutions. "Data science" has recently become a trending topic in the computing world. Such data-driven solutions may be utilized to create an effective model as well as an intelligent decision-making system in a variety of real-world application domains, such as business, financial analysis, cybersecurity, IoT applications, and many more. As a result, the goal of this article is to provide an effective data-driven solution that uses machine learning techniques to evaluate whether a website is phishing. The majority of machine learning-based phishing detection algorithms gather characteristics from the URL, search engine, third-party, online traffic, DNS, and so on.

Shritika Waykar, Tejaswini Patil, Akanksha Kulkarni, Maheshwari Chittampalli, Shraddha Kalsekar, Abhilasha Bhagat

Abstract

Nonlinear problem solving and complex system simulation have become critical issues in many fields of science. The development of novel computational methods is crucial to understanding these complex systems. In this abstract, we explore the dynamic landscape of computational techniques, focusing on their uses in simulating complex systems and tackling nonlinear challenges. Creating complex algorithms that can deal with nonlinearity, chaos, and emergent behaviours is where it's at. Tools for modelling and comprehending such complex systems are few, but machine learning, artificial intelligence, and evolutionary computation are at the forefront. The way problems are solved has been completely rethought because of their nonlinearity-tolerance and ability to operate in high-dimensional domains. In addition, novel opportunities have arisen due to the combination of classical mathematical models with computer methods. The behaviour and emergent features of complex systems are best understood by hybrid approaches that combine differential equations, agent-based modelling, and cellular automata. These techniques provide a fine-grained comprehension of component interactions, illuminating emergent events. Moreover, the advent of high-performance computing has substantially expanded the breadth and resolution of simulations. Scientists are now able to probe increasingly complex systems, shedding light on their dynamics and behaviours. Computational capacities have been vastly improved by parallel computing, distributed systems, and cloud computing infrastructures, allowing for the study of systems that were once thought to be intractable. Nonlinear issues and complex system simulations can benefit greatly from the combination of cutting-edge computational approaches with domain-specific expertise. This abstract is a testament to the expanding significance and potential of these computational approaches in understanding complex systems and opening up new frontiers for research and solving problems.

Issue

Vol. 31 No. 1 (2024) (https://internationalpubls.com/index.php/cana/issue/view/50)

Section

Articles

Author Biography

Shritika Waykar, Tejaswini Patil, Akanksha Kulkarni, Maheshwari Chittampalli, Shraddha Kalsekar, Abhilasha Bhagat

Shritika Waykar[1], Tejaswini Patil[2], Akanksha Kulkarni[3], Maheshwari Chittampalli[4], Shraddha Kalsekar[5], Abhilasha Bhagat[6]

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An International Open Access, Peer-reviewed, Refereed Journal

Resume Screener Using Machine Learning

Ashwin Praveen Khairnar , Shubham Ganpat Khupase , Prashik Vikas Agale ,
Yash Shankarrao Veer , Sonali Lunawat
Pimpri Chinchwad College of Engineering and Research, Ravet, Pune

Abstract. Resume screening is an important task in the recruitment process, and machine learning techniques have shown great promise in automating this task. However, most of the existing research in this area has focused on supervised learning algorithms, which rely on labeled data for training. While supervised learning can be effective, it has several limitations in the context of resume screening. First, obtaining labeled data can be time- consuming and expensive, especially for smaller companies with limited resources. Second, labeled data may not always be available or may not be representative of the entire pool of resumes. Finally, supervised learning algorithms may be biased towards the labels in the training data, which can lead to inaccurate or unfair results. To address these limitations, this paper proposes the use of unsupervised learning algorithms for resume screening. Unsupervised learning algorithms do not require labeled data for training, and can identify patterns and structures in the data without external guidance. In the context of resume screening, unsupervised learning algorithms can be used to cluster resumes based on their similarities, and identify important keywords and phrases that can be used to rank and filter

1 Introduction

Nowadays, hiring new talent is a time-consuming and complex procedure for the recruiting or hiring companies. Several resume applications appear for acquisition of the job, and with the exponential rise in the number of new students entering the job market with a wide variety of skill sets, the applications received by hiring teams have increased significantly. The system for shortlisting resumes using supervised learning [1] was being used to simplify the process of structuring the shortlisting process. However, with the recent rapid increase in internetconnectivity and networking, the recruitment process has undergone modifications over time. Hiring managers attract a wide variety of resume applications for the opening, and diversified resumes make it difficult for the supervised machine learning model to work efficiently, leading to inaccurate solutions and suggestionsand ultimately resulting in the failure of the recruitment drive. While supervised learning methods have been widely used for resume screening, unsupervised learning methods [2] have also demonstrated promise. Unsupervised learning may aid in the identification of patterns and correlations in data without the requirement for labelled samples, making it a handy tool for analysing big datasetsof resumes [3]. In this study, we investigate the application of unsupervised learning methods for resume screening, especially clustering [4] and topic modelling approaches. We show how these algorithms may be used to sort resumes based on similarities and highlight relevant themes and abilities. We also examine the possible benefits of utilising unsupervised learning for resume screening and compare the performance of our technique to established methods.

JP202324_CO_27

Title of Paper: Suppressing the Spread of Fake News Over the Social Web of Things: An Influence Maximization-Based Supervised Approach.

Journals & Magazines > IEEE Systems, Man, and Cybern... > Volume: 9 Issue: 4

Suppressing the Spread of Fake News Over the Social Web of Things: An Influence Maximization-Based Supervised Approach

Publisher: IEEE Cite This PDF

Nabamita Deb ; Archana Kollu ; Ali Alferaidi ; Lulwah M. Alkwai ; Pankaj Kumar All Authors

Abstract:
With the continuous rise of various social media, the security problems caused by disseminating news in social networks have become increasingly prominent. Among them, the dissemination of false news has brought a significant threat to the security of cyberspace. A method based on influence maximization is proposed to change the premise of the false news in network space. This article employed the Louvain clustered local degree centrality (LCLD) and random maximum degree (RMD) algorithm to extract the most influential node set via influence maximization. Subsequently, TextCNN (convolutional neural network) was used to classify and identify false news and filter out several critical points in the node set. Then, the modified propagation network was repredicted by the prediction model. As a result, the spread of false news was significantly suppressed compared with the network before modification. Finally, the verification was carried out on Buzz Feed News's real dataset. First, the information-based cascaded prediction model can more accurately fit the actual spread. Then the modified network was input into the prediction model for prediction, and the results show that the spread of false news can be suppressed. Finally, the influence maximization algorithm deletes several nodes containing incorrect information. It can effectively suppress the spread of false news, thus verifying the effectiveness of the proposed method.

Published in: IEEE Systems, Man, and Cybernetics Magazine (Volume: 9 , Issue: 4, October 2023)

Page(s): 20 - 25

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Date of Publication: 13 October 2023

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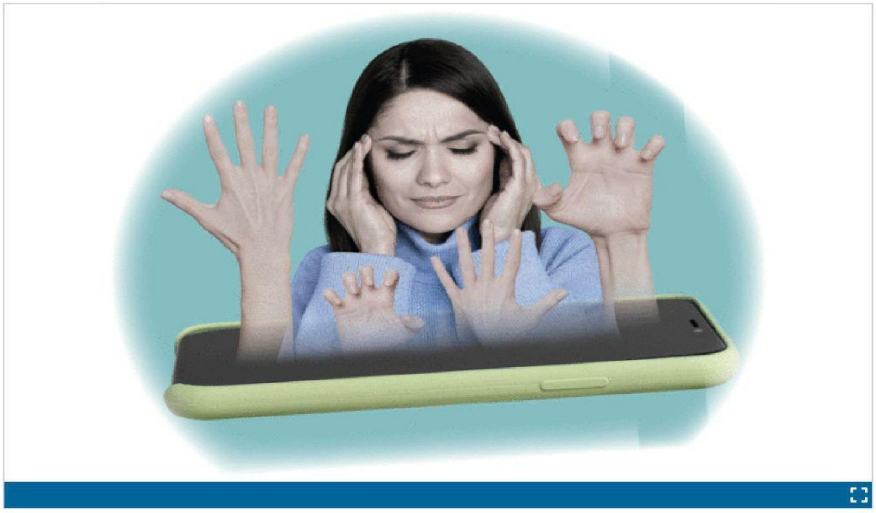


JP202324_ETC_01

Title of Paper: Speech emotion recognition for human–computer interaction.

Speech emotion recognition for human–computer interaction

| Published: 31 August 2024

| Volume 27, pages 817–830, (2024) Cite this article

D. Thiripurasundari, Kishor Bhangale, V. Aashritha, Sisira Mondreti & Mohanaprasad Kothandaraman

Abstract

Speech emotion recognition (SER) is a vital component of the human–computer interaction system. The traditional Deep learning-based speech SER schemes show poor time-domain representation, class imbalance issues due to uneven samples in the training datasets, less feature distinctiveness, and inferior long-term dependency on global and local attributes of the speech. This article introduces lightweight, long short memory (LSTM) along with multiple acoustic features such as Mel frequency spectrum coefficients (MFCC), chroma,

JP202324_ETC_02

Title of Paper: Speech Emotion Recognition Using Generative Adversarial Network and Deep Convolutional Neural Network

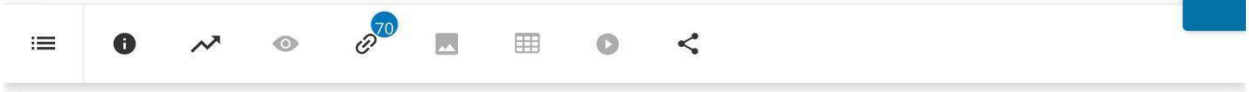
Circuits, Systems, and Signal Processing

Speech Emotion Recognition Using Generative Adversarial Network and Deep Convolutional Neural Network

Authors: Kishor Bhangale, Mohanaprasad Kothandaraman | Authors Info & Claims

Circuits, Systems, and Signal Processing, Volume 43, Issue 4 • Pages 2341 - 2384
https://doi.org/10.1007/s00034-023-02562-5

Published: 16 December 2023 Publication History



Feedback

Abstract

Speech emotion recognition (SER) has recently increased because of vast innovations in human–computer interaction and affective computing. In recent years, numerous deep learning-based schemes presented for SER have shown significant improvement over the traditional machine learning approaches. Most deep learning-based faced SER systems face challenges due to data imbalance problem that occurs due to unequal samples in the database. The input to two-dimensional CNN uses traditional MFCC for SER. It degrades the quality of deep attributes because of the higher variance, frequency resolution problem and spectral leakage problem of traditional MFCC. This paper proposed the novel Multi-taper Mel Frequency Logarithmic Spectrogram to enrich the Deep Convolutional Neural Network effectiveness for SER. Further, Generative Adversarial Network is used for speech

JP202324_ETC_03

Title of Paper: Adam teaching learning optimization enabled LeNet for autism spectrum disorder detection using brain MRI

ScienceDirect

Biomedical Signal Processing and Control

Volume 90, April 2024, 105864

Adam teaching learning optimization enabled LeNet for autism spectrum disorder detection using brain MRI

T.D. Dhamale [a], Sheetal U. Bhandari [a]

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Highlights

- In pre-processing phase, Region of Interest (ROI) is done and median filter is used.
- Extraction of pivotal region is done employing devised ATLO and output-1 is obtained.
- The extracted features include statistical features as well as texture features.

Abstract

The autism spectrum disorder (ASD) is a complicated, lifetime, neuro-developmental circumstance of highly unknown causes. It is greatly more ordinary than formerly believed, frequency only to mental retardation amongst serious developmental disorders. Even though, a heritable element is demonstrated in the etiology of ASD, reputed risk genes are still to be detected. Therefore, Adam

JP202324_ETC_04

Title of Paper: Dielectric modulated organic thin film transistor trench biosensor for label-free detection: Modeling and simulation analysis

Dielectric modulated organic thin film transistor trench biosensor for label-free detection: Modeling and simulation analysis

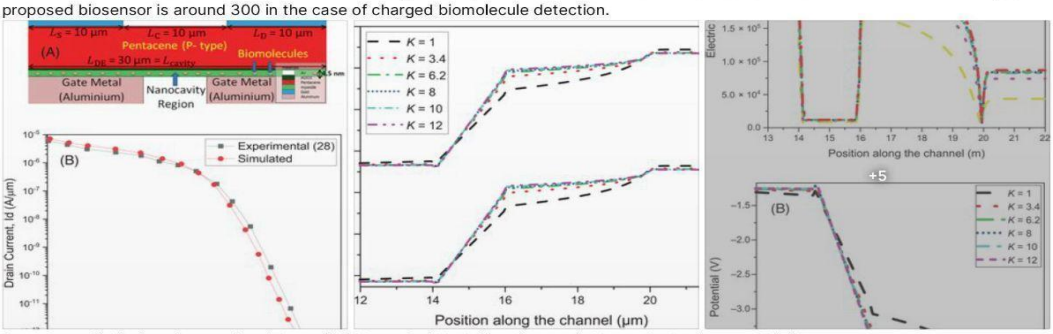
Nov 2023 · International Journal of Numerical ... 37(11):n/a-n/a

DOI: 10.1002/jnm.3186

Sheetal Bhandari · Triveni D. Dhamale · Rupali Kawade · Show all 5 authors · Girish Wadhwa

Abstract and figures

In the present paper, a biosensor is proposed with a split gate dielectric modulated bottom gate top contact organic thin-film transistor. A cavity is marked below gate metal for enhancing sensitivity in biomedical applications. The organic thin-film transistors-based biosensors have shown applications over advanced biosensing platforms due to their intrinsic ability to transfer and amplify received biological signals into respective electrical signals. Immobilizing the biomolecules inside the cavity generates changes in surface potential. The analysis is carried out via different performance metrics that directly affect device electrical characteristics such as a change in spacer length applied voltages (VgsV_{gs} and VdsV_{ds}) as well as channel material. After modeling, the device output characteristics are compared corresponding to simulated outcomes that validated our results. The proposed model structure is categorized by dividing it into different sections. Each categorized section's surface potential is further evaluated via 1- and 2-dimensional Poisson's equation. The simulations to recreate biomolecules in terms of dielectric constant and charge density are done in the Silvaco ATLAS tool. The maximum value of sensitivity of proposed biosensor is around 300 in the case of charged biomolecule detection.



JP202324_ETC_05

Title of Paper:Optimal trained ensemble of classification model for speech emotion recognition: Considering cross-lingual and multilingual scenarios.

Optimal trained ensemble of classification model for speech emotion recognition: Considering cross-lingual and multi-lingual scenarios

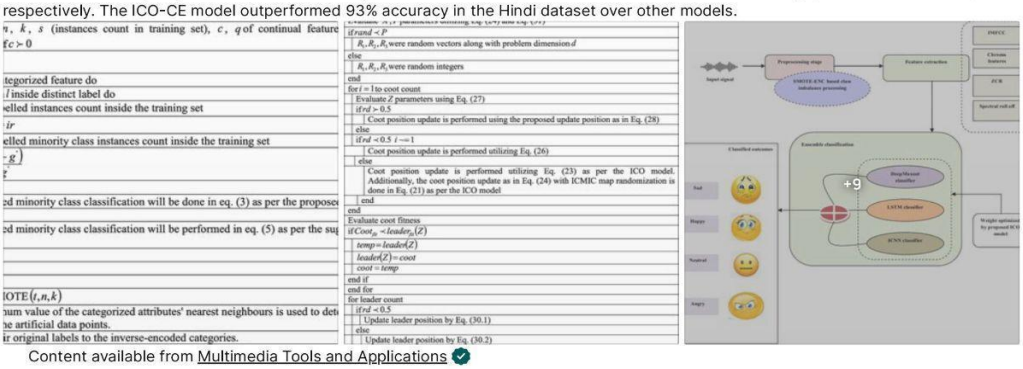
Dec 2023 · Multimedia Tools and Applications 83(18)

DOI: 10.1007/s11042-023-17097-9

Rupali Ramdas Kawade · Sonal K. Jagtap

Abstract and figures

Speech has a significant role in conveying emotional information, and SER has emerged as a crucial component of the human–computer interface that has high real-time and accuracy needs. This paper proposes a novel Improved Coot optimization-based Ensemble Classification (ICO-EC) for SER that follows three stages: preprocessing, feature extraction, and classification. The model starts with the preprocessing step, where the class imbalance problem is resolved using Improved SMOTE-ENC. Subsequently, in the feature extraction stage, IMFCC-based features, Chroma-based features, ZCR-based features, and spectral roll-off-based features are extracted. The last stage is classification; in this, an ensemble classification model is used, which combines the classifiers including Deep Maxout, LSTM and ICNN, respectively. Here, the training process is made optimal via an Improved Coot Optimization (ICO) by tuning the optimal weights. At last, the performances of the developed model are validated with conventional methods with four different databases. Also, the proposed model for cross-lingual provides a better accuracy as 92.76% for Hindi, 92.95% for Kannada, 93.85% for Telugu, and 95.97% for Urdu, respectively. The ICO-CE model outperformed 93% accuracy in the Hindi dataset over other models.



Web Intelligence 21 (2023) 271–291
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IOS Press

Performance evaluation and comparative analysis of CrowWhale-energy and trust aware multicast routing algorithm

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[a] *Assistant Professor, PCCOER, Ravet Pune, India*
[b] *Professor and HOD(E&TC), Bhivarabai Sawant Institute of Technology and Research, Wagholi Pune, India*

Abstract. Multipath routing helps to establish various quality of service parameters, which is significant in helping multimedia broadcasting in the Internet of Things (IoT). Traditional multicast routing in IoT mainly concentrates on ad hoc sensor networking environments, which are not approachable and vigorous enough for assisting multimedia applications in an IoT environment. For resolving the challenging issues of multicast routing in IoT, CrowWhale-energy and trust-aware multicast routing (CrowWhale-ETR) have been devised. In this research, the routing performance of CrowWhale-ETR is analyzed by comparing it with optimization-based routing, routing protocols, and objective functions. Here, the optimization-based algorithm, namely the Spider Monkey Optimization algorithm (SMO), Whale Optimization Algorithm (WOA), Dolphin Echolocation Optimization (DEO) algorithm, Water Wave Optimization (WWO) algorithm, Crow Search Algorithm (CSA), and, routing protocols, like Ad hoc On-Demand Distance Vector (AODV), CTrust-RPL, Energy-Harvesting-Aware Routing Algorithm (EHARA), light-weight trust-based Quality of Service (QoS) routing, and Energy-awareness Load Balancing-Faster Local Repair (ELB-FLR) and the objective functions, such as energy, distance, delay, trust, link lifetime (LLT) and EDDTL (all objectives) are utilized for comparing the performance of CrowWhale-ETR. In addition, the performance of CrowWhale-ETR is analyzed in terms of delay, detection rate, energy, Packet Delivery Ratio (PDR), and throughput, and it achieved better values of 0.539 s, 0.628, 78.42%, 0.871, and 0.759 using EDDTL as fitness.

Keywords: Spider monkey optimization, dolphin echolocation, water wave optimization, crow search algorithm, whale optimization algorithm

1. Introduction

IoT is a very significant part of our day-to-day life. It is an emerging application in current years in which the devices connected in IoT are linked through the internet to provide convenience and efficiency in industries, human lives, and academia [4,34]. The generation of wireless communication schemes in obedience to complicated approaches for security [12,39]. Moreover, these devices have been broadly utilized in big IoT infrastructures where a huge amount of smart as well as sensing devices are linked to manage and establish communication [18,33]. The linked devices are interconnected with one another for the purpose of broadcasting information, which is highly placed in low-power and lossy networks (LLN) [6,32]. The LLN is a network class in which the devices are linked based on memory, power, and processing, which are attained by low data rates, high loss rates, and instability in

*Corresponding author. E-mail: dkshende10@gmail.com.

JP202324_ETC_09

Title of Paper:Speech emotion recognition based on multiple acoustic features and deep convolutional neural network.

electronics

MDPI

Article

Speech Emotion Recognition Based on Multiple Acoustic Features and Deep Convolutional Neural Network

Kishor Bhangale and Mohanaprasad Kothandaraman *

School of Electronics Engineering (SENSE), Vellore Institute of Technology, Chennai 600127, India
* Correspondence: kmohanaprasad@vit.ac.in

Abstract: Speech emotion recognition (SER) plays a vital role in human–machine interaction. A large number of SER schemes have been anticipated over the last decade. However, the performance of the SER systems is challenging due to the high complexity of the systems, poor feature distinctiveness, and noise. This paper presents the acoustic feature set based on Mel frequency cepstral coefficients (MFCC), linear prediction cepstral coefficients (LPCC), wavelet packet transform (WPT), zero crossing rate (ZCR), spectrum centroid, spectral roll-off, spectral kurtosis, root mean square (RMS), pitch, jitter, and shimmer to improve the feature distinctiveness. Further, a lightweight compact one-dimensional deep convolutional neural network (1-D DCNN) is used to minimize the computational complexity and to represent the long-term dependencies of the speech emotion signal. The overall effectiveness of the proposed SER systems' performance is evaluated on the Berlin Database of Emotional Speech (EMODB) and the Ryerson Audio-Visual Database of Emotional Speech and Song (RAVDESS) datasets. The proposed system gives an overall accuracy of 93.31% and 94.18% for the EMODB and RAVDESS datasets, respectively. The proposed MFCC and 1-D DCNN provide greater accuracy and outpace the traditional SER techniques.

Keywords: affective computing; convolutional neural network; deep learning; MFCC; speech emotion recognition

check for updates

Citation: Bhangale, K.; Kothandaraman, M. Speech Emotion Recognition Based on Multiple Acoustic Features and Deep Convolutional Neural Network. *Electronics* 2023, *12*, 839. https://doi.org/10.3390/electronics12040839

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Published: 7 February 2023

1. Introduction

Speech emotion recognition (SER) deals with the recognition of emotional content in the speech signal irrespective of its semantic content. Humans can naturally perform SER as a part of speech communication; the ability to perform automatic SER using computational strategies is still an enduring topic of research. SER systems are extensively utilized in various applications to understand the emotional status of humans such as call center operators, car drivers, customer care centers, pilots, narcotics analysis, online learning platforms, and many other human–machine interaction system users [1,2].

The generalized SER system encompasses two major phases: training and testing. Machine learning or deep learning techniques were used to learn the classifier based on hand-crafted characteristics of speech emotion signals during the training phase. During the testing step, the real-time samples are compared to the trained model to see if it can distinguish the specific emotion. Data preparation, feature extraction, feature selection, and classification are all important steps in the SER process. To improve raw voice signals, data preparation includes signal normalization, noise reduction, and artifact removal. Using various feature extraction strategies, the feature extraction step aids in capturing the key aspects of a certain emotion. The importance of feature selection in collecting crucial characteristics to reduce the SER system's complexity cannot be overstated. Lastly, different machine learning or deep learning classifiers are employed for SER [3,4].

Speech emotion signal is a continuous time-domain signal that contains emotion as well as information. Speech features can be local or global features depending upon the feature extraction approach. Local features are known as segmental features or short-term

JP202324_ETC_10

Title of Paper:Speech emotion recognition using the novel PEmoNet (Parallel Emotion Network).

Applied Acoustics
Volume 212, September 2023, 109613

Speech emotion recognition using the novel PEmoNet (Parallel Emotion Network)

Kishor B. Bhangale [a], Mohanaprasad Kothandaraman [b]

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Highlights

- Representation of speech signal using Multitaper Mel Frequency spectrogram (MTMFS), Gammatonegram spectrogram (GS), and Constant Q-Transform (CQT) spectrogram.
- Speech Emotion recognition using proposed PEmoNet architecture.
- Experimental results and discussions for SER for EMODB and RAVDESS dataset.
- The use of MTMFS, Gammatonegram, and CQT spectrogram improves the frequency domain representation of the emotion signal and thus improves SER accuracy.

Abstract

Emotions are very crucial for humans for expressing perception and daily activities such as communication, learning, and decision-making. Human emotion recognition using machines is a

JP202324_ETC_11

Title of Paper: Comprehensive Study of Automatic Speech Emotion Recognition Systems.

Comprehensive Study of Automatic Speech Emotion Recognition Systems

Aug 2023 · International Journal on Recent and... 11(9s):709-717

DOI: 10.17762/ijritcc.v11i9s.7743

Rupali Kawade · Sonal Jagtap

Abstract

Speech emotion recognition (SER) is the technology that recognizes psychological characteristics and feelings from the speech signals through techniques and methodologies. SER is challenging because of more considerable variations in different languages arousal and valence levels. Various technical developments in artificial intelligence and signal processing methods have encouraged and made it possible to interpret emotions.SER plays a vital role in remote communication. This paper offers a recent survey of SER using machine learning (ML) and deep learning (DL)-based techniques. It focuses on the various feature representation and classification techniques used for SER. Further, it describes details about databases and evaluation metrics used for speech emotion recognition.

JP202324_ETC_12
Title of Paper: Liver segmentation using marker controlled watershed transform.

Kiran Malhari Napte, Anurag Mahajan

Abstract

The largest organ in the body is the liver and primarily helps in metabolism and detoxification. Liver segmentation is a crucial step in liver cancer detection in computer vision-based biomedical image analysis. Liver segmentation is a critical task and results in under-segmentation and over-segmentation due to the complex structure of abdominal computed tomography (CT) images, noise, and textural variations over the image. This paper presents liver segmentation in abdominal CT images using marker-based watershed transforms. In the pre-processing stage, a modified double stage gaussian filter (MDSGF) is used to enhance the contrast, and preserve the edge and texture information of liver CT images. Further, marker controlled watershed transform is utilized for the segmentation of liver images from the abdominal CT images. Liver segmentation using suggested MDSGF and marker-based watershed transform help to diminish the under-segmentation and over-segmentation of the liver object. The performance of the proposed system is evaluated on the LiTS dataset based on Dice score (DS), relative volume difference (RVD), volumetric overlapping error (VOE), and Jaccard index (JI). The proposed method gives (Dice score of 0.959, RVD of 0.09, VOE of 0.089, and JI of 0.921).

Keywords

computer tomography; gaussian filtering; image enhancement; liver segmentation; watershed transform;

Full Text:

PDF

DOI: http://doi.org/10.11591/ijece.v13i2.pp1541-1549

International Journal of Electrical and Computer Engineering (IJECE)
p-ISSN 2088-8708, e-ISSN 2722-2578

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JP202324_ETC_13

Title of Paper: ESP-UNet: Encoder-Decoder Convolutional Neural Network with Edge-Enhanced Features for Liver Segmentation.

ESP-UNet: Encoder-Decoder Convolutional Neural Network with Edge-Enhanced Features for Liver Segmentation

Kiran Napte (https://orcid.org/0000-0002-0740-7941) | Anurag Mahajan* (https://orcid.org/0000-0002-2251-522X) | Shabana Urooj (https://orcid.org/0000-0002-1477-8759)

Corresponding Author Email: anurag.mahajan@sitpune.edu.in

Page: 2275-2281 **DOI:** https://doi.org/10.18280/ts.400545

Received: 27 February 2023 **Revised:** 21 July 2023 **Accepted:** 11 August 2023 **Citation**

Available online: 30 October 2023

Abstract:

Precise liver segmentation in Computed Tomography (CT) scans plays a pivotal role in numerous biomedical applications, spanning surgical planning, postoperative assessment, and pathological detection of hepatic diseases. The task, however, is fraught with challenges due to the inherent complexities of liver morphology, including indistinct boundaries, irregular shapes, and complex architecture. Consequences of under-segmentation and over-segmentation of the liver in CT images can lead to inaccurate localizations and diagnoses of liver diseases, underscoring the necessity for accurate segmentation. This study introduces an Encoder-Decoder Convolutional Neural Network, termed ESP-UNet, which is designed to reduce under-segmentation and over-segmentation, thereby enhancing the accuracy of liver

JP202324_ETC_14
Title of Paper: Automatic Liver Cancer Detection Using Deep Convolution Neural Network

Journals & Magazines > IEEE Access > Volume: 11

Automatic Liver Cancer Detection Using Deep Convolution Neural Network

Publisher: IEEE Cite This PDF

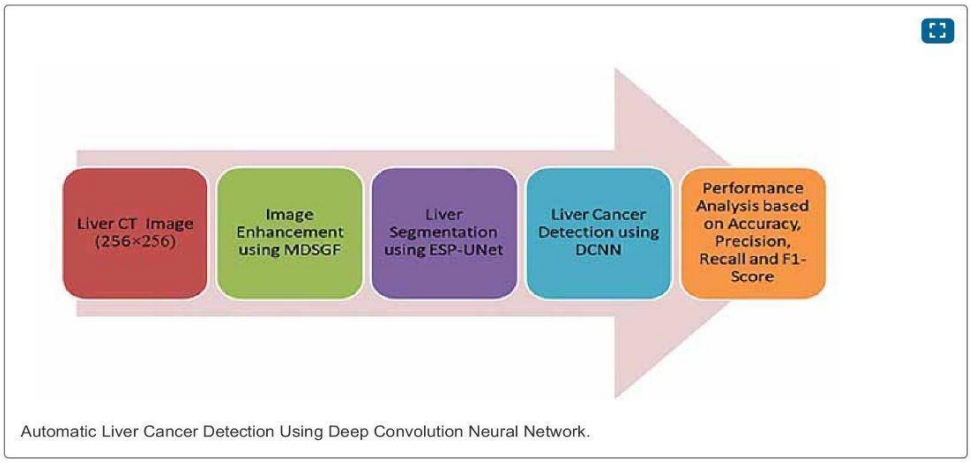
Kiran Malhari Napte ; Anurag Mahajan ; Shabana Urooj All Authors

12 Cites in Papers

1561 Full Text Views

Open Access Comment(s)

Abstract:
Automatic liver cancer detection (ALCD) is very crucial in automatic biomedical image analysis and diagnosis as it is the largest organ in the body and plays a significant role in the metabolic process as well as the elimination of toxins. In the last decade, various machine and deep learning schemes have been investigated for automatic ALCD using computed tomography (CT) images. However, ALCD in CT images is challenging because of the noise, intricate structure of abdominal computed tomography (CT) images, and textural changes throughout the CT images making liver segmentation a vital challenge that may result in both under-segmentation (u-seg) and over-segmentation (o-seg) of the organ. This paper presents liver segmentation based on the proposed Edge Strengthening Parallel UNet (ESP-UNet) for liver segmentation to avoid the u-seg and o-seg of the liver in CT images. Further, it offered ALCD based on lightweight sequential Deep Convolution Neural Networks (DCNN). The consequences of ESP-UNet DCNN-based ALCD are evaluated based on accuracy, recall, precision, and F1-score. The suggested approach provides a noteworthy improvement in ALCD over the traditional state of arts.



Automatic Liver Cancer Detection Using Deep Convolution Neural Network.

Published in: IEEE Access (Volume: 11)

Page(s): 94852 - 94862

DOI: 10.1109/ACCESS.2023.3307640

Date of Publication: 22 August 2023

Publisher: IEEE

Electronic ISSN: 2169-3536

Funding Agency:

PDF Help

SECTION I.

JP202324_ETC_15

Title of Paper:A Comparative Analysis of EEG-based Stress Detection Utilizing Machine Learning and Deep Learning Classifiers with a Critical Literature Review.

A Comparative Analysis of EEG-based Stress Detection Utilizing Machine Learning and Deep Learning Classifiers with a Critical Literature Review

Aug 2023 · International Journal on Recent and... 11(8s):61-73

DOI: 10.17762/ijritcc.v11i8s.7175

Dipali Dhake · Yogesh Angal

Abstract

Background: Mental stress is considered to be a major contributor to different psychological and physical diseases. Different socio-economic issues, competition in the workplace and amongst the students, and a high level of expectations are the major causes of stress. This in turn transforms into several diseases and may extend to dangerous stages if not treated properly and timely, causing the situations such as depression, heart attack, and suicide. This stress is considered to be a very serious health abnormality. Stress is to be recognized and managed before it ruins the health of a person. This has motivated the researchers to explore the techniques for stress detection. Advanced machine

JP202324_ETC_16
Title of Paper: SEMI-SUPERVISED GAN FOR MEDICAL IMAGE SEGMENTATION.

VOL. 18, NO. 22, NOVEMBER 2023 ISSN 1819-6608
ARPN Journal of Engineering and Applied Sciences

www.arpnjournals.com

SEMI-SUPERVISED GAN FOR MEDICAL IMAGE SEGMENTATION

Pallavi Adke[1], Gaurav Adke[2], Shweta Patil[1], Darshana Bhavsar[1] and Aishwarya Mane[1]
Department of Electronics and Telecommunications, PCET's Pimpri Chinchwad College of Engineering and Research, Ravet Michelin Tyres, Pune
E-Mail: pallavi.adke@pccoer.in

ABSTRACT

Echocardiography is a popular ultrasound imaging method used for the diagnosis of heart conditions. With the advent of numerous image processing algorithms, echocardiographic image segmentation has become more significant. This is a crucial stage since it offers a framework for evaluating numerous cardiac parameters, including LV volume and heart wall, valve motion, ejection fraction, thickness, etc. All these factors are crucial for determining a heart's health. The task of manual segmentation requires skilled operators and takes a lot of time. By requiring the discriminator network to output class labels, we extend Generative Adversarial Networks to the semi-supervised type. This paper examines image segmentation techniques for echocardiography to find the borders of the left ventricle. In this paper, we introduce a new convolution neural network model for the auto-segmentation of the left ventricle in echo images. The division of a picture into regions is known as image segmentation. Segments, that computer vision can use to automatically understand. This method makes it easier to simultaneously evaluate and diagnose echo pictures. The segmentation of echocardiographic images can be utilized to measure cardiac characteristics like heart wall thickness.

Keywords: echocardiography, image segmentation, semi-supervised GAN, left ventricle, convolutional neural network.

Manuscript Received 31 May 2023; Revised 11 January 2024; Published 30 January 2024

INTRODUCTION

Using a technique of echocardiographic image segmentation, one can extract numerous different segments drawn from a given image, with each fragment's pixels being identical. These echocardiographic images are obtained by process of echocardiography. Using ultrasonic waves, the technique of echocardiography produces real-time images of the heart's architecture. same features and characteristics. Echocardiographic images are segmented using various techniques to identify the various cardiac structures, such as the right ventricle, left ventricle (LV), right atria, heart walls, left atria, etc. Due to its significance in cardiac diagnostics, LV segmentation is one of the chambers that has been analysed most and is an active topic of research. For LV segmentation, many techniques have been developed. This paper uses a semi-supervised GAN for auto segmentation purpose. In which we can auto-segment echocardiographic images by training the GAN model by supervised as well as unsupervised datasets. Compared to time-consuming subjective manual segmentation, this approach can deliver reliable, trustworthy, and consistent results.

RELATED RESEARCH WORK

Olaf Ranneberger *et al.* [1] build on more sophisticated 'fully convolutional network' architecture ". They change and develop this design to be able to do well with a select few training images and more precise segmentations. The main idea is adding a continuous layer to the regular contract network, where an unsampled operator replaces the task of the pooling operator. Consequently, these layers enhance the output's resolution. Ian J. Goodfellow *et al.* [2] this provides a framework which can provide training algorithms specific to many types of models and the optimization algorithms. This paper examines the unique situation where the discriminative model is also a multi-layer perceptron and the generative model creates samples by running random noise over it. This unique instance is known as an adversarial net. In this situation, only the highly effective backpropagation as well as dropout algorithms can be used to train both these of the models, and only forward propagation can be used to sample from the resulting models. Yuntan *et al.* [3] have employed a framework for adversarial learning for segmentation network semi-supervised training. With consistent outcomes, the model's performance after being trained on only half of the labelled data was comparable to that of the fully supervised trained model. Pallavi Kulkarni, Deepa Madathil [4] discussed nonlinear filters in detail. Section I and Section II discuss diffusion processes and advanced techniques for diffusion processes. Commonly used wavelet denoising methods are discussed in Section III, also various thresholding techniques are discussed in Section IV. Now section V describes filters for fractional arithmetic. Ms. Pallavi Kulkarni and Deepa Madathil [5] discussed the application of image segmentation methods of echocardiography.

Pallavi Kulkarni & Deepa Madathil [6] implemented a new adaptive threshold method for echocardiographic images. A new approach is based on wavelet transformation. On the patient's echocardiographic images, this method's performance is evaluated. Pallavi Kulkarni & Deepa Madathil [7] presents the use of deep learning for fully automated echo LV segmentation. The CNN model used in the current work is developed in relation to the U-NET architecture. This model produces an output image that shows the possibility that each pixel belongs to a specific class. (LV or background). This architecture uses an unsupervised

Keywords:
Deep Web, Information extraction, Surface Web, Web mining, Wrapper induction.

Santosh V. Chobe, Swati Nikam

Abstract

With the exponential growth of the internet, an abundance of information has become readily available. Extracting valuable data from the web is crucial for applications such as meta-querying and comparison shopping. However, the heterogeneous nature of web information poses a significant challenge to the extraction process. The web can be classified into the surface or visible web and the deep or invisible web. While conventional search engines can index the surface web, they fall short when it comes to the deep web.

To access the deep web, users must submit queries to web databases, and the results are encapsulated in dynamically generated web pages containing data records. Traditional search engines struggle to index these dynamic pages, necessitating a specialized program for efficient information extraction from the deep web. Web search engines generate result pages based on user queries, making it crucial to automatically extract data from these pages for various applications.

In this context, we propose an innovative data extraction method called Effective Data Extraction using Preprocessing (EDEP). The EDEP approach begins by parsing the input HTML page, constructing a tag tree, and subsequently eliminating irrelevant tags from the tree. Notably, our system efficiently handles scenarios where auxiliary information, such as recommendations or comments, is intermixed between query result records (QRRs), causing them to be non-contiguous. EDEP also effectively manages result pages containing single QRRs.

Through experimental results, it is evident that EDEP outperforms existing data extraction methods, showcasing its efficacy in handling the complexities associated with web data extraction.

Issue

Vol. 27 No. 3 (2024) (https://internationalpubls.com/index.php/anvi/issue/view/68)

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Call for Papers for the Upcoming Issue.

JP202324_IT_1
Title of Paper:Optimizing Data Extraction using Preprocessing for Enhanced Efficiency

Evaluation of the extent and demanding roles of ethical hacking in cybersecurity

Sep 2023 · Journal of Autonomous Intelligence 7(1)
DOI: 10.32629/jai.v7i1.1246
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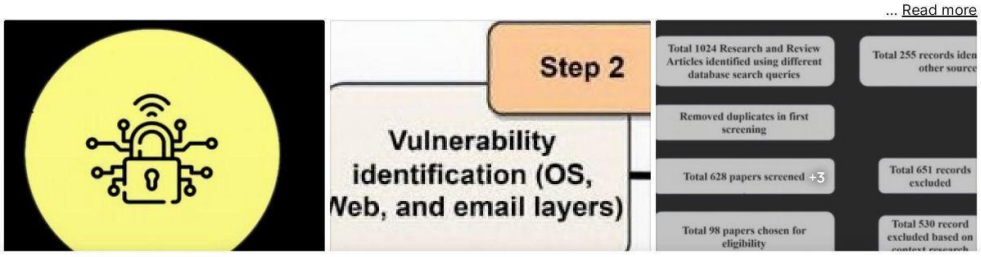
Jambi Ratna Raja Kumar · D. G. Bhalke · Swati yeshawant Nikam · Show all 6 authors · Kiran Kale

Abstract and figures

p>A permitted effort to acquire unlawful connection to computing systems, programs, or information is referred to as ethical hacking. Software developers must check for flaws, compartment focus, define needs and objectives, and create a method that makes the most of their resources. The rationale for this kind of vulnerability evaluation has a direct impact on the overall assessment's estimate. More specifically, it is known that technological gadgets are necessary to prevent computer criminals from breaking into web applications to control their operations and gain access to confidential knowledge for unintended objectives. This research study provides an analysis to determine the scope and challenging responsibilities of ethical hacking employed in cyber security. Network monitoring is a legitimate need in which authorized developers attempt to breach a company's frameworks or arrangements for the convenience of the owners to uncover security flaws. It provides information on how organizations may use computer forensics, such as vulnerability assessments using open-source devices, to safeguard their program's administrators and operations. Numerous tools have been explored for security auditing of the networks which involves Nmap, Nessus, Brutus, Acunetix, etc. As a result, safeguards were put in place to identify these flaws and protect sensitive data from cyber-attacks. Ethical hacking has a bright future for detecting system or application vulnerabilities effectively. Nevertheless, tools utilized in the cyber security field for network or computer application secrecy have some limits namely growing com



JP202324_IT_2

Title of Paper: Evaluation of the extent and demanding roles of ethical hacking in cybersecurity.

Evaluation of the extent and demanding roles of ethical hacking in cybersecurity

Sep 2023 · Journal of Autonomous Intelligence 7(1)
DOI: 10.32629/jai.v7i1.1246
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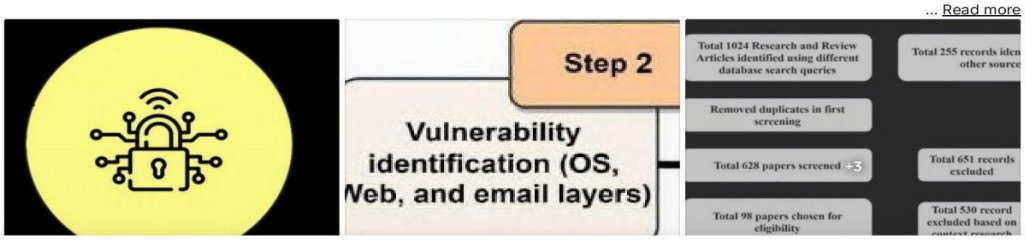
Jambi Ratna Raja Kumar · D. G. Bhalke · Swati yeshawant Nikam · Show all 6 authors · Kiran Kale

Abstract and figures

p>A permitted effort to acquire unlawful connection to computing systems, programs, or information is referred to as ethical hacking. Software developers must check for flaws, compartment focus, define needs and objectives, and create a method that makes the most of their resources. The rationale for this kind of vulnerability evaluation has a direct impact on the overall assessment's estimate. More specifically, it is known that technological gadgets are necessary to prevent computer criminals from breaking into web applications to control their operations and gain access to confidential knowledge for unintended objectives. This research study provides an analysis to determine the scope and challenging responsibilities of ethical hacking employed in cyber security. Network monitoring is a legitimate need in which authorized developers attempt to breach a company's frameworks or arrangements for the convenience of the owners to uncover security flaws. It provides information on how organizations may use computer forensics, such as vulnerability assessments using open-source devices, to safeguard their program's administrators and operations. Numerous tools have been explored for security auditing of the networks which involves Nmap, Nessus, Brutus, Acunetix, etc. As a result, safeguards were put in place to identify these flaws and protect sensitive data from cyber-attacks. Ethical hacking has a bright future for detecting system or application vulnerabilities effectively. Nevertheless, tools utilized in the cyber security field for network or computer application secrecy have some limits namely growing com



Keywords:
Quantum computing, Cryptographic security, Post-quantum cryptography, Shor's algorithm, Encryption vulnerabilities.

Swati Dixit, Ujwal Ramesh Shirode, Santoshkumar Vaman Chobe, Swati Nikam, Yogita D. Bhise

Abstract

Quantum computing is a big change in the way computers work, and it promises to be much faster than traditional systems. This new technology brings both huge benefits and huge problems, especially when it comes to cryptographic security measures. Classical encryption algorithms, like RSA and ECC, depend on the fact that some math problems are hard, like discrete logarithms and integer factorization. Quantum algorithms, like Shor's algorithm, can solve these problems quickly. Because of this, the development of scalable quantum computers poses a danger to the basic safety of the cryptography methods that are widely used today. This short summary looks at the big effects that quantum computing will have on the safety of cryptography. It looks at the security holes that quantum algorithms create and stresses how important it is to find answers for post-quantum cryptography (PQC). PQC wants to make programs that can't be broken by quantum attacks. This will make sure that digital interactions can still be private, secure, and real in a world powered by quantum computers. Also, switching to PQC comes with a lot of problems, such as implementing algorithms, making sure they are all the same, and getting people to use them in a lot of different technology environments. The abstract talks about current research projects and foreign partnerships that aim to standardize and implement PQC. It stresses how important it is to plan ahead to reduce the risks of the future.

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Call for Papers

Call for Papers for the Upcoming Issue.

Last Date of Submission: June 30th, 2025

JP202324_IT_4
Title of Paper:Harnessing AI for Strategic Decision-Making and Business Performance Optimization

International Journal of Intelligent Systems and Applications in Engineering
IJISAIISAE
ISSN: 2147-6799

HOME / ARCHIVES / VOL. 11 NO. 10S (2023) / Research Article

Harnessing AI for Strategic Decision-Making and Business Performance Optimization

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Dean Industry Institute Interaction PCET's Pimpri Chinchwad College of Engineering, Pune, Maharashtra, India

Santoshkumar Vaman Chobe
Computer Engineering, Pimpri Chinchwad College of Engineering & Research (PCCOER), Ravet,Pune

Keywords: Artificial Intelligence, AI, Strategic Decision-Making, Business Performance, Optimization, Predictive Analytics, Machine Learning, Data Mining, Decision Support

ABSTRACT

Making strategic decisions and improving corporate performance have been transformed by the use of artificial intelligence (AI) into business operations. AI-driven methodologies provide sophisticated tools for analyzing enormous and complicated datasets, enabling companies to get insightful information and make decisions that were previously beyond the capability of humans. This abstract examines how AI is used to make strategic decisions and improve corporate performance. Organizations may use AI tools like machine learning, predictive analytics, and data mining to find patterns, trends, and correlations in data that indicate undiscovered possibilities and dangers. Businesses may proactively change their plans by using predictive modeling to foresee consumer behavior, market developments, and operational issues. Additionally, AI's capacity to handle real-time data enables swift decision-making, giving companies a competitive edge in industries that are changing quickly. AI helps with resource allocation, supply chain management, and inventory optimization in the context of business performance optimization. Modern algorithms streamline logistics, cutting costs and increasing effectiveness. Systems for personalized recommendations enabled by AI also increase revenue and customer satisfaction. Businesses may improve operational efficiency overall by streamlining operations, cutting waste, and utilizing AI-driven insights. This integration does not, however, come without difficulties. When using AI for decision-making, ethical issues, bias reduction, and data protection must come first. Additionally, even while AI supports human judgment, it still requires human interpretation to connect AI-generated insights to broader corporate objectives. In conclusion, the use of AI in corporate performance optimization and strategic decision-making heralds a fundamental change in the way companies function. Businesses get the adaptability and intelligence necessary to succeed in today's dynamic and competitive market by utilizing AI to analyze data, forecast trends, and improve operations. AI technologies have the ability to uncover previously unattainable value and encourage long-term success when used responsibly.

DOWNLOADS

JP202324_IT_5

Title of Paper:Introduction of machine learning with applications to communication system.

Introduction of machine learning with applications to communication system

Sep 2023 · Journal of Autonomous Intelligence 6(3)
DOI: 10.32629/jai.v6i3.1244
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Jambi Ratnaraja Kumar · Santoshkumar Chobe · Swati yeshawant Nikam · Show all 6 authors · Deepali Hirolikar

Abstract and figures

p>This research paper presents a brief introduction to the key point of Machine Learning (ML) with the application to communication systems. Due to the exceptional accessibility of software and data abilities, there is a great deal of interest in using digital information machine learning thinking to solve issues in a variety of fields. Regarding the phenomenal amount of information and computer facilities, there is a lot more interest in using content-supervised learning methods to resolve obstacles where engineering course techniques are restricted by theoretical or methodological problems. This study starts by clarifying when and why comparable strategies may well be effective. It then goes into the fundamentals of supervised and unsupervised at a high level. Where traditional engineering solutions are being developed Modelling or algorithmic flaws are posing a problem. This paper begins by answering the why and when of these questions. Such methods can be beneficial to resolve real-time problems. It then goes into the fundamentals of classification and regression problems at a world-class level. Exemplifying software to communications infrastructure is presented both for the structured and unstructured interviews by identifying roles performed first at the network's perimeter and cloud bits at multiple levels of the internet protocol suite, with a concentration on the application layer. The core contributions of this research study are as follows: (a) this research study explores the machine learning applications in communication system and networks optimization; (b) it offers an analysis of contri

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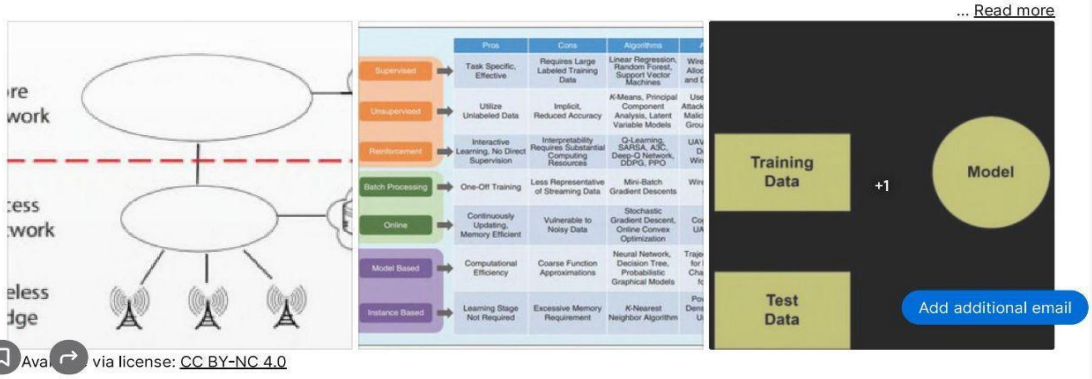

JP202324_ME_1

Title of Paper: Navigating Escalation Patterns in Road Construction Projects in Maharashtra.

Navigating Escalation Patterns in Road Construction Projects in Maharashtra

PDF (https://internationalpubls.com/index.php/pmj/article/view/2027/1290)

DOI: https://doi.org/10.52783/pmj.v34.i4.2027 (https://doi.org/10.52783/pmj.v34.i4.2027)

Keywords:
Escalation, Construction projects, cement, Steel, Labour

Rahul S. Chaudhari , Gulab Siraskar , Ghanasham C. Sarode , Ujwal Ramesh Shirode , Pushparaj Warke , Nitin Shinde

Abstract

This research delves into the nuanced dynamics of escalation amounts in construction projects, differentiating their implications on residential versus road construction. Detailed analyses of four diverse projects expose distinctive patterns: Project No.1 witnesses peak steel escalation, while material, labour, and POL exhibit constancy. Project No.2 reveals material escalation as dominant, with recuperated steel and cement costs. Conversely, Project No.3 portrays negative escalations for material and POL, dominated by labour impacts. Project No.4 experiences negative escalations attributable to duration shifts. The study unveils a correlation between project duration and escalating costs, highlighting steel, material, and labour as pivotal in residential projects and labour, material, and POL in road projects. The research underscores the critical role of escalation clauses in contracts, elucidating their significance in mitigating direct impacts on project costs. The findings emphasize project-specific factors such as duration, material price fluctuations, project nature, client-contractor dynamics, and governmental policies shaping escalation outcomes.

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Vol. 34 No. 4 (2024) (https://internationalpubls.com/index.php/pmj/issue/view/76)

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An Experimental Investigation of Surface Roughness And Cutting Forces On GFRP

PDF (https://internationalpubls.com/index.php/pmj/article/view/1782/1149)

DOI: https://doi.org/10.52783/pmj.v34.i3.1782 (https://doi.org/10.52783/pmj.v34.i3.1782)

Keywords:
GFRP, ANOVA, cutting forces, surface roughness.

Asmita A. Bagade, Shriramshastri Chavali, Pranav Charkha, Kuldeep A. Mahajan, Prashant Patil, Gulab Siraskar, Prasad Baban Dhore, Bhuvaneshwar D. Patil

Abstract

In the current study, the emphasis was on finding experimental results on machinability of Glass fibre reinforced plastic composite with milling machine. Study is carried out with objectives of examination of cutting parameter on GFRP materials. Speed , feed, depth of cut & number of flute are consider for analyzing effect on surface finish & cutting forces of composites. Design of experiment is carry out by Taguchi's L18 orthogonal array. To find out more about the machining parameters on GFRP composite using end mill of cemented carbide, an analysis of variances (ANOVA) utilizing Minitab 15 software was finally carried out.

Issue

Vol. 34 No. 3 (2024) (https://internationalpubls.com/index.php/pmj/issue/view/74)

Section

Articles

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Design and Control of Modular Compliant XY Positioning stage

PDF (https://internationalpubls.com/index.php/pmj/article/view/1784/1151)

DOI: https://doi.org/10.52783/pmj.v34.i3.1784 (https://doi.org/10.52783/pmj.v34.i3.1784)

Keywords:
Compliant, parallel kinematic, modular design, decoupling properties, motion control, translation stages.

Kishor K. Dhande, Vijayshri Mahobia, Sarika Atul Patil, Santosh D.Sancheti, Gulab Dattrao Siraskar, Sandip S. Nehe, Prasad Baban Dhore, Rakesh Raushan

Abstract

The modular design and controller implementation of compliant XY stage having large motion range are presented.The design involves symmetric parallel kinematic configuration using compound parallelogram flexure module (CPM) with input-output decoupling properties. The architectural parameters are determined based on the performance metrics such as stiffness, resonance frequency and motion range etc. The FEA simulation predicts the range of motion of 12 mm along each working axes.A prototype is developed to assess the performances of the stage. The results exhibit the small deviation between the two working axes which reflects the better decoupled motions.The PID controller is implemented to achieve the accuracy of positioning with submicron resolution.

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Vol. 34 No. 3 (2024) (https://internationalpubls.com/index.php/pmj/issue/view/74)

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Assessment of Bitumen Paver and HMP Efficiency for a Road Project

PDF (https://internationalpubls.com/index.php/pmj/article/view/1783/1150)

DOI: https://doi.org/10.52783/pmj.v34.i3.1783 (https://doi.org/10.52783/pmj.v34.i3.1783)

Keywords:
Highway, Construction, Utilization, and Performance.

Ghanasham C. Sarode, Rahul S. Chaudhari, Gulab Siraskar, Himanshu Ahire, Shantanu Pawar, Nitin Shinde, Prasad Baban Dhore, Deepika G. Sarode

Abstract

One of the important and dependable sectors of the national economy is the equipment used in highway construction. In the process of building constructions, efficient utilization of labour, supplies, and machinery must be fervently pursued through competent project management. The adoption of innovative procedures and new equipment has resulted in a dramatic advance in construction technology in recent decades. The selection of the right type and size of construction equipment typically affects how productive a project is on the job site. Thus, it is essential that site managers and construction planners understand the primary equipment categories that are most frequently used in construction. Technical aspects and working conditions are taken into consideration in the article's method of calculating the operational productivity and cost of asphalt pavers. This increases the accuracy of decisions made about how to organize and manage highway maintenance activities on Chikhali-Tarsod NH-6.

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Articles

JP202324_ME_5

Title of Paper: Experimental investigation of multi-additive fuel blend and its optimization for CI engine performance and emissions by the hybrid Taguchi- TOPSIS technique.

ScienceDirect

Case Studies in Thermal Engineering
Volume 53, January 2024, 103703

Experimental investigation of multi-additive fuel blend and its optimization for CI engine performance and emissions by the hybrid Taguchi- TOPSIS technique

Amit R. Patil [a], Dipankar Kakati [b], Bharat Singh [c], Marc A. Rosen [d], Rupali Patil [e], Vijaykumar Javanjal [f], Chandrakant Sonawane [g], Hitesh Panchal [h], Abhinav Kumar [i], Md Irfanul Haque Siddiqui [j], Kishor Kumar Sadasivuni [k]

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Abstract

In recent years, the critical stage of air pollution and government stringent emission norms like Bharat Standard VI in 2020 in India and Euro VI in European countries, along with the promotion of electric vehicles, has made the future of diesel vehicles unpredictable. The present work correlates and tries to overcome the emission issue by improving fuel properties using a novel multi-additive fuel blend which can control engine emission, mostly NOx, without compromising efficiency and operating fuel economy. Using experimental and literature studies, three additives were identified for creating a novel multi-additive fuel blend, viz. dimethyl carbonate, 2-ethylhexyl nitrate and ethyl acetate. Using the Taguchi Design of Experiment method, sixteen test samples having different combinations of these additive were identified for experimental trials to create sufficient and suitable test data for the optimization process. Technique for Order of Preference by Similarity to Ideal Solution is a Multi Criteria Decision Making optimization process, is performed to identify the optimized multi-additive fuel blend coded as D8EH6E4. Blending the optimized multi-additive sample D8EH6E4 with diesel fuel reduced NOx formation by an average of 19% while causing a

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Title of Paper: Characterization and In-vitro Study of Polyethylene Glycol as Coating Material used as Drug Carriers on Coronary Stent for Treatment of Cardiac Diseases.

RESEARCH ARTICLE

Characterization and *In-vitro* Study of Polyethylene Glycol as Coating Material used as Drug Carriers on Coronary Stent for Treatment of Cardiac Diseases

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ABSTRACT

Background: The way coronary artery disease is treated has changed dramatically with the use of coronary angioplasty and stenting. Nowadays, acute coronary syndromes brought on by coronary artery disease are frequently treated using drug-eluting stents. A review of the literature reveals that the polymer coating's thickness affects the stent's safety; moreover, current computational studies suggest that larger coatings increase the risk of stent deformity. Polyethylene glycol is the preferred polymer coating material for coronary artery stents.

Objectives: Characterization of polyethylene glycol as a medication carrier coating for coronary stents used in cardiac disease therapy

Methods: Using UV-visible spectrophotometer, differential scanning calorimetry (DSC), fourier-transform infrared (FTIR), X-ray diffraction, thermogravimetric analysis, and surface morphology, polyethylene glycol was characterized.

Results: The calibration curves' linear regression results, as revealed by the UV-visible spectrophotometer investigation, showed a significant linear association between the concentration range of 10 to 60 µg/mL for polyethylene glycol $Y = 0.0354X + 0.0212$ ($r2 = 0.999$), was found. Polyethylene glycol's molecular miscibility, recrystallization, and phase separation were investigated using a DSC analysis. It was found that the material was physically stable because no recrystallization peaks were visible. According to the results of the thermogravimetric study, a ceramic sample cup with 4 to 6 mg of sample was heated to 400°C at a rate of 5°C every minute. Nitrogen gas was continuously supplied at a rate of 20 mL/min into the sample chamber during the analysis. The results of each batch were measured, and an average was determined. The study of surface coatings to examine the microstructure of the coatings produced both before and after the use of polymers is known as surface morphology. Within analytical imaging is the subset of surface morphology. Pure polyethylene glycol's morphology showed broad plate-shaped structures. Additionally, a strong band is detected between 1362 and 1287 cm^{-1}, which is comparable to the C-O stretching vibration seen in primary alcohol.

Conclusion: On base of the characterization results above shows that polymers were stable and included functional groups and structures throughout a range of conditions. It is possible to use polyethylene glycol as a coating material for coronary stents.

Keywords: polyethylene glycol, FTIR, DSC, TGA, XRD.

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INTRODUCTION

A common treatment for clogged arteries is coronary artery stenting, which involves inserting a coiled metallic mesh stent inside the affected area to increase blood flow. The buildup of calcified plaque in coronary arteries creates blockages, which results in a deficiency of oxygenated blood that is vital for the heart muscles. When examining coronary stents and their long-term mechanical properties, the impact of RBC contact has not been completely taken into account because prior research on stents and their mechanical qualities has mostly focused on the impact of arterial pulsation rather than RBC interaction.[1] RBC-RBC collisions can vary. RBC-RBC and RBC-polymer-coated stent collisions may differ. The human body mounts an immunological response to this disparity in the collision. In order to reduce the difference in the coronary stent's contact with RBC, an optimal polymer covering for the

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Effect of Xanthan Gum Biopolymer on Laterite Soil in Settlement Analysis Using Plaxis-2D

Shailendra Pandurang Banne, Arun W. Dhawale, Rajkumar B. Patil, Sanket Kankarej, Kirti Naikare, Bhushan Patil, and Sagar Shelke

1 Introduction

Soil is an unconsolidated material consisting of sediments derived from rocks. Laterite soil covers ten percent of India's overall geographical area, including Southern parts of Western Ghat, Malabar Coastal plains, and part of Andhra Pradesh, Tamil Nadu, Karnataka, Meghalaya, West Bengal's western region, and Ratnagiri of Maharashtra. It is also known as red soil due to its high iron oxide content. Laterite, a highly weathered material rich in iron and aluminum oxides, is often collapsible in behavior. This behavior can initiate cracks and fractures that reduce the safety of structures. Ordinary constructions (low rise) may be able to be built on adequately planned footings a few feet below the ground surface, but larger structures may need to be built on hard strata. Since the engineering properties of soils in laterite-soil profiles vary considerably both vertically and horizontally, it is advisable to carefully evaluate each material on its own merits before deciding on the bearing pressure for a given foundation. Under tropical conditions, laterite is a severely deteriorated and residual soil formed by in situ weathering and degradation of rocks. This soil is rich in Ferric Oxide (Fe_2O_3) and Aluminum Oxide (Al_2O_3). It may contain an appreciable amount of quartz and clay mineral kaolinite having a hydrogen bond. This soil is formed in high-temperature, heavy-rainfall environments with alternating wet and dry periods, which results in the discharging of soil that is washed out of siliceous

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Analysis of Smart City Environment by Artificial Intelligent Techniques

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Abstract. The expectation of artificial intelligence is happened to realize in such a way that it essentially and most peculiarly supports the sustainable enhancement of fore coming smart environment surrounding the cities. The contribution towards the different developing fields of artificial intelligence have been made in determining the transformation towards traditional cities with conventional facilities into fully built smart environmental cities. The knowledge of producing better standards of living by rebuilding technology into daily activities of human is the primary requirements of the smart city emergence with esteemed technologies. In this proposed study, the concepts are enlightened towards few enhanced and developed technologies and identification of solutions to different problems that has been faced by people due to absence of digital environment. It illustrates certain problems that has been related to the smart city infrastructure, security, public safety, which lends suitable solutions for the denoted problems. It not only creates the emphasis on the technique of artificial intelligence but also on the Internet of Things (IoT) applications, pattern recognitions, deep and machine learning, analytics of big data and infrastructures associated with cloud computing in establishing the development as a completely equipped smart city.

Keywords: Machine Learning, Artificial Intelligence, cloud computing, pattern recognition, big data analytics, deep learning, Internet of Things.

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Earthquake Early Warning System Utilizing an CNN-LSTM-TL Based Method for Detection and Parameters Classification

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***Abstract* –The obvious first line of protection against powerful earthquake motion is to reinforce houses and other structures. The goal of real-time earthquake catastrophe prevention, in contrast to real-time seismology, is to mitigate damage while an earthquake is still underway. A disaster preventive measure that can be put into action in real-time in the event of an earthquake requires an early warning system (EEW). In order to avoid disasters, should not rely solely on EEW. The order of preprocessing, feature selection, and training the model must be meticulously followed. The preparation phase includes data encoding and normalization. Feature selection incorporates principal component analysis and linear discriminant analysis. It utilized CNN-LSTM-TL for the model's training. The results demonstrate a remarkable 96.49% accuracy.**

***Keywords*—Earthquake Early Warning (EEW), Principal component analysis (PCA), Linear Discriminant Analysis (LDA).**

I. INTRODUCTION

The main goal of earthquake early warning systems (EEWS) is to provide information about the impending magnitude and timing of earthquakes so that people can take precautions to reduce the damage the system cause. Hence, EEW is an issue that affects society as well as science. If EEW could reduce the impact of future earthquakes and avert many casualties, it would be absolutely astounding. But are the system fair expectations? Can the proposed approach truly expect EEW to reduce earthquake damage that much more easily than previous efforts? Determining whether to alert users, and if so, how, whom, and what kind of warning to provide in a timely manner is the challenge. Despite their high profile and critical importance, these widely shared choices come with substantial technical challenges. But getting effective warnings out to a big audience gets much more difficult. Caution periods for EEWs are significantly shorter compared to those for other dangers. It is common knowledge from past natural disasters that providing prompt, effective warnings is difficult, despite the advantages. Aside from that, the exact procedures to follow are unknown. The rapid and precise shaking estimates provided by the EEW system may not always be sufficient to significantly mitigate the effects of an earthquake, even when used as a warning system. The fundamental goal of PEEW systems is to quickly detect seismic activity and alert the public about the impending tremors induced by S waves. The goal is to reduce the possibility of seismic damage by giving the public a critical evacuation window of opportunity, which can range from a few seconds to dozens of seconds. The number of injuries caused by earthquakes may be reduced by more than half if everyone received seismic alerts and took precautions. In the past decade, PEEW systems have been installed in numerous countries, including South Korea, Mexico, Taiwan, and the United States. Many earthquake-prone locations have seen an increase in public demand for PEEW systems, but their implementation has been hindered by the high initial and ongoing costs. From a risk management perspective, PEEW systems are effective if the system assist decrease risks and avert injuries. The current capabilities and technical performance of PEEW systems have been assessed in a plethora of studies. However, its efficacy with respect to specific Reducing risk can be influenced by social and cultural variables. Everyone involved needs to hear the message, understand it, believe it, and then act upon it. Earthquake early warning (EEW) systems are a feasible method for reducing seismic hazards; the system could reduce the severity of destructive earthquakes. In addition, there are a number of regions where more EEW systems are either being built or tested in real-time. Onsite warning systems and network-based regional warning systems are the two main types of EEW systems. Based on the first P-wave motion of a single station or local array, the onsite warning approach can anticipate the next peak ground shaking at the same spot. However, for a regional warning, scientists make informed assumptions about the location and size of the earthquake's source and predict

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Statistical Analysis of Rainfall Data using non-parametric methods of Solapur District, Maharashtra, India

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Abstract. India being a Tropical country, experiences variety Rainfall. The Rainfall is the prime input required for Design of Hydraulic structures like culverts and bridges, Irrigation canals, storm water and road drainage system, etc. To estimate the detailed design and planning of crops, statistical analysis is required. In the present study, annual rainfall data for a period of 20 years (2000 to 2019) is used to understand the statistical behavior of the rainfall in last two decades for Solapur district. Also return period by various plotting position formulae is evaluated from the annual rainfall. The rainfall variability is checked by calculating the mean, standard deviation and coefficient of variation. From the study results, the rainfall pattern is found to be irregular. The best fitted probability distribution was identified based on the minimum deviation between actual and estimated values.

Keywords: statistical analysis, return period, annual rainfall data, Solapur district.

1 Introduction

Water being an important part for any life process and have no substitute for it. Water is used for many useful purposes like transportation, power generation, domestic consumption, agriculture and industry. For Indian Territory, the Southwest Monsoon is the important source of water in any area, as a rain and it has a dramatic effect on agriculture. The Crop yield in rain-fed areas depends on the rainfall pattern, therefore it important to predict the probability of occurrence of rainfall from the historical data using the statistical analysis. The Frequency analysis or the probability distribution relates the magnitude of the extreme events like floods, droughts and severe storms with their number of occurrences such that their chance of occurrence with time can be predicted easily. By fitting a frequency distribution to the set of hydrological data, the probability of occurrences of random parameter can be calculated. To fit the distribution, the hydrological data is analysed and the variability in the data is studied from the Statistical parameters. Suchit Kumar Rai et al. [1] studied the change, variability and rainfall probability

A Review on Intelligent Transportation Systems (ITS) for Smart Cities

Publisher: IEEE Cite This PDF

Anil Shirgire ; V. Vasugi ; Abhay Shelar ; Manikanta Vangari ; Subhash Gadhave ; Chetan S. Chavan All Authors

Abstract:
The scope of this research includes not only an analysis of previous research on the use of ITS in smart cities but also the creation of a mathematical model to determine the extent to which ITS has contributed to an improvement in the flow of vehicular traffic. According to the literature review and the mathematical model, ITS has the potential to greatly enhance the sustainability of smart cities by lowering congestion and increasing safety and security. This can be accomplished by improving safety and security measures. When using ITS, there are a number of challenges that must be conquered, including interoperability, data privacy, and cyber security, to name just a few. The findings of this study may be implemented into policy and utilized to direct investments in ITS infrastructure, all of which may contribute to the enhancement of the transport networks in smart cities.

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Conference Location: Coimbatore, India

Crypto-Watermarking Scheme for Secure Tranmission and Protection of Satellite Images

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Minal Bodke ; Sangita Chaudhari All Authors

Abstract:
The Satellite images provide the significant information about the planet along with the natural resources. Satellite images are collected from many sources like topographic maps, aerial sensors, satellite sensors, positioning systems and ground-based observations. The storage and sharing of satellite images are very costly and time consuming. The satellite images consist of the confidential data, which is exposed to various threats and attacks. The advanced technologies enable the unauthorized persons to do illegal activities, such as duplication and the stealing of sensitive data. They can also alter the contents in the data and utilize them illegally. Therefore, there is increasing demand for a secure transmission of the satellite images. A Crypto-watermarking scheme for protection and secure transmission of satellite images is introduced using wavelet transform and multiplicative cipher encryption. This solution not only protects the ownership of the data but also provide additional security at dissemination level at low cost.

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Conference Location: Bangalore, India

IoT and Machine Learning in Agriculture: A Comparative Review of Smart Farming Solutions

Prema Shankar ; Ayush Thakur ; Hamza Ansari ; Mohammed Bilal ; Prof. Archana Chaugule All Authors

Abstract:
Smart agriculture utilizes IoT and ML technologies to revolutionize traditional farming practices. IoT sensors collect real-time environmental data, which ML algorithms analyze for tasks like soil classification, crop yield prediction, and disease detection. Various ML techniques, including deep learning models, are employed to improve accuracy and efficiency of the system. Applications range from automated livestock monitoring to efficient water management. Hybrid models combining different ML approaches often achieve superior results. Smart agriculture shows great potential for enhancing crop yields, reducing waste, and promoting sustainable practices to address global food security concerns.

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Chapter

An Investigation of Various Machine Learning Applications to Improve Food Agriculture Sectors

By Mutyalaiah Paricherla (/search?contributorName=Mutyalaiah Paricherla&contributorRole=author&redirectFromPDP=true&context=ubx), Archana Kollu (/search?contributorName=Archana Kollu&contributorRole=author&redirectFromPDP=true&context=ubx), Jyoti L. Bangare (/search?contributorName=Jyoti L. Bangare&contributorRole=author&redirectFromPDP=true&context=ubx), Domenic T. Sanchez (/search?contributorName=Domenic T. Sanchez&contributorRole=author&redirectFromPDP=true&context=ubx)

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ABSTRACT

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Next Chapter > (chapters/edit/10.1201/9781032708348-29/optimization-approach-industry-4-0-utilizing-iot-enablers-karan-vohra-amit-kumar-sinha-ankush-ananda?context=ubx)

Exploring the Potential of Prompt Engineering: A Comprehensive Analysis of Interacting with Large Language Models

Publisher: IEEE Cite This PDF

Vaidehi Pawar ; Manvi Gawande ; Archana Kollu ; Aditya Sudhir Bile All Authors

Abstract:
This article focused on exploring the core principles of prompt engineering, aiming to provide a comprehensive understanding of how to effectively interact with and instruct large language models (LLMs) using prompts. The article extensively covered various aspects of prompt engineering, including an analysis of its fundamental components, different types of prompts, ethical considerations in the prompting process, and the wide-ranging applications of prompt engineering. Additionally, the study conducted a comparative analysis between two conversational AI bots, ChatGPT 3.5 and BardAI, by subjecting them to similar prompts. The results of this comparison indicated a high level of similarity in their performances, suggesting that both bots are comparable in their capabilities. The study also highlighted the immense potential for further advancements in the field of prompt engineering. By investigating the intricacies of prompt design, ethical implications, and showcasing the promising applications, this article contributes significantly to the knowledge base surrounding prompt engineering. The findings not only shed light on the current state of the technology but also point towards numerous opportunities for future articles and development in this domain.

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Certificate

This is to certify that Dr./Prof./Mr./Ms. **Madhuri Husan Badole** has presented paper entitled **To Enhance VANET Communication services using a Metaheuristic Algorithm** in IEEE International Conference on Information Technology, Electronics and Intelligent Communication Systems (ICITEICS-2024) during 28th to 29th June 2024 at Vemana Institute of Technology, Bengaluru.

Dr. Vijayasimha Reddy B.G
General Chair - ICITEICS 2024

Prof Ankitha A
Convener - ICITEICS 2024

2024 5th International Conference on Mobile Computing and Sustainable Informatics (ICMCSI)

Design a New Approach to Calculate Calorie Count with Machine Learning (ML) and Augmented Reality (AR)

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***Abstract*— The global obesity epidemic has persisted for many years, resulting from prevalent dietary disorders that expose individuals to a multitude of health risks. Juggling the demands of a working adult's life while trying to manage one's diet can prove to be quite a challenge. Machine Learning (ML) stands as an incredibly potent and indispensable technology in our contemporary world.**

The system will have a significant emphasis on calorie and nutrient calculation within food items, and it sets itself apart from existing systems by offering full automation, eliminating the need for users to manually input data. Users will find the process incredibly straightforward, merely requiring them to capture an image of their food and provide it as input to the system. The initial phase of the system involves determining an individual's recommended calorie intake based on their Basal Metabolic Rate (BMR). This calculated daily calorie goal is then continually monitored and presented through Augmented Reality (AR). If the individual successfully adheres to their daily calorie target, the system sends an achievement notification to acknowledge their progress. However, should the individual surpass their calorie goal, the system responds by displaying a pop-up AR window suggesting suitable exercises to help offset the excess calorie consumption. This approach combines personalized calorie management with real-time AR feedback to support users in maintaining their desired dietary goals and overall health.

Keywords*— *Convolutional Neural Networks (CNNs), Augmented Reality (AR), Machine learning, Basal Metabolic Rate (BMR), Calories

I. INTRODUCTION

In recent years, the field of food image recognition has made significant strides, largely thanks to the incorporation of Convolutional Neural Networks (CNNs) and Augmented Reality (AR). These advancements have given rise to smartphone applications that harness CNN-based techniques for food identification in images, providing valuable features like dietary monitoring and meal analysis. Nevertheless, a critical challenge persists in this domain: the precise estimation of calorie content for recognized food items. Most existing applications link estimated calorie counts to recognized food categories, often necessitating user input for factors like portion size or volume. This not only creates an inconvenient user experience but also introduces subjectivity into the calorie estimation process. Despite substantial advancements in food image recognition, particularly in the categorization of various food items, the automatic estimation of food calories directly from images remains an unsolved problem. The ability to derive calorie estimates directly from food photos holds immense potential for encouraging healthier dietary choices and addressing health concerns like obesity and diabetes. In light of these challenges, this document explores pivotal methods and technologies designed to improve the precision and user-friendliness of food calorie estimation systems.

This paper introduces the conception and development of a smartphone-based dietary tracking application. This application will be designed to aid not only obese individuals but also patients in efficiently managing their dietary choices, thereby promoting a healthier lifestyle. The core of this system leverages deep learning to identify various food items and subsequently compute their nutritional value, focusing primarily on calorie content.

In the scope of this experiment, an extensive collection of food photos featuring multiple dishes, along with their cumulative calorie content, will be amassed. We undertake the challenge of estimating the calorie content of these diverse dishes from the food photos, employing a combination of a food detector and an image-based approach for food calorie estimation. To align these tasks with the modern automated landscape, where efficiency and convenience are paramount, the incorporation of automation augmented reality (AR) components has proven to be highly effective.

The document underscores the importance of calorie management and underscores the integral role of calorie estimation facilitated by Augmented Reality (AR) in this process. Furthermore, the document underscores the persistent commitment to innovative food image recognition and calorie estimation technologies. These advances play a crucial role in promoting healthier dietary decisions, addressing health problems stemming from excessive calorie intake, and delivering a more streamlined and automated approach to dietary management.

II. MACHINE LEARNING

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A deep learning model that can generate abstractive summaries for multimedia content such as videos. Audio, and text to provide concise and informative descriptions.

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***Abstract*: Multimedia data, comprising text, audio, and video, has become increasingly prevalent in today's digital landscape, leading to a growing need for effective summarization techniques. In an era inundated with multimedia data, spanning text, audio, and video, the task of generating coherent and concise summaries has assumed paramount importance. Deep Learning (DL) techniques have emerged as powerful tools for tackling the multifaceted challenges posed by multimedia summarization. This research focuses on summarization methods that harness the power of Deep Learning (DL) to extract meaningful content from diverse multimedia formats. The objective is to provide a comprehensive overview of the state-of-the-art DL techniques employed in summarizing multimedia data. By exploring various multimedia formats and their associated challenges, this study contributes to the evolving landscape of multimedia summarization, offering insights into its applications and future potential. Overall, this study aims to deepen our understanding of DL-based multimedia summarization techniques and their implications in the context of an increasingly data-rich digital world.**

Keywords: Deep Learning Attention Module, Duplicate Frames, OpenCV, Speech Recognition, NLP (Natural Language Processing)

I. INTRODUCTION

In today's data-driven world, the abundance of multimedia content in various formats, including text, audio, and video, presents both an opportunity and a challenge. The opportunity lies in the potential to extract valuable insights and knowledge from this vast and diverse multimedia landscape, while the challenge lies in the complexity of handling such heterogeneous data. Deep Learning, a subset of machine learning, has demonstrated remarkable capabilities in understanding and processing multimedia data. Specifically, its application in multimedia summarization has garnered significant attention. Multimedia summarization refers to the process of distilling the most essential and informative aspects of multimedia content, enabling efficient content consumption, retrieval, and analysis. This would involve a systematic investigation into the state-of-the-art DL methodologies tailored for multimedia data types. We dive into the details of text summarization, audio summarization, and video summarization, focusing on the specialized DL models and algorithms that have been developed to address the unique challenges each data type poses[1].

Multimedia, referring to the combination of various forms of media such as text, audio, and video, has become an integral part of our daily lives. Its advent can be traced back to the rapid advancements in technology, particularly in the fields of communication and information sharing. The widespread availability and accessibility of multimedia content have revolutionized how we communicate, entertain, and learn. [2].

With the exponential growth of multimedia data, there arises a need for efficient and effective methods to process and extract meaningful information from this vast amount of content. This is where summarization comes into play. Summarization refers to the process of condensing and presenting the most important and relevant information from a given set of data [3], affecting data processing and data understanding. The need for summarization in the context of multimedia is evident. As humans, we have limitations in terms of attention span and time availability. Therefore, it becomes crucial to have concise summaries that capture the essence of multimedia content, allowing us to quickly grasp the key points without having to go through extensive and time-consuming sources[4].

From real-world applications spanning news aggregation to content recommendation to the ethical considerations accompanying the deployment of AI systems in summarization tasks, this work would offer a deep dive into a cutting-edge field that holds immense promise for the

Detection of Objects to Assist Individuals with Visual Impaired Using YOLOv8

Publisher: IEEE Cite This PDF

Srushti Satalkar ; Vibha Rao ; Atharva Yadav ; Jeevika Sirwani ; Yogeshwari Mahajan All Authors

Abstract:
Navigating the world with visual impairments presents significant challenges. This project aims to develop a real-time object detection system to empower individuals with visual impairments, enhancing their mobility and independence. By harnessing the power of computer vision and machine learning, the system will employ object detection algorithms to identify and classify objects in the user's environment. This information will then be relayed through intuitive audio feedback, enabling users to perceive and interact with their surroundings more effectively. The project will encompass the exploration and evaluation of various state-of-the-art object detection algorithms, ultimately integrating the most effective solution into a comprehensive and user-friendly system

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Conferences > 2023 7th International Confer...

Attention U-Net for Low Light Image Enhancement

Publisher: IEEE Cite This PDF

Sreenidhi Bendre ; Shovin Kaul ; Shubhodiya Ghosh ; Sneha Pujari ; Deepa Mahajan ; Varsha Bendre All Authors

Abstract:
Image enhancement has been a very significant part of computer vision. The image captured in low light has a poor quality and includes a lot of noise which has a negative impact on various learning models. In the past decade, Artificial Intelligence technology has advanced more rapidly than ever, and a wide range of its applications, including autonomous vehicles, AR, VR, speech recognition, picture identification demands enhancement of images. Currently, the available methods give promising results with optimally lit images but have a poor performance against low-light images. The image captured in low light has a poor quality and includes a lot of noise which degrades the performance of vision-based algorithms. To make the details buried in the image more prominent, reducing the noise and blur from the image is crucial. The advancements in deep learning have introduced numerous techniques to improve the image quality under dim light. A great deal of research has been devoted to this in the past to boost the quality of images clicked in low light conditions. Numerous deep learning-based approaches are proposed to solve the issue. This paper presents a thorough survey of deep learning-based models and improves an attention-based convolution network - Attention U-Net aimed at improving image perception and interpretability in an environment with poor illumination.

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Improvised Real-Time Tweet Analysis for Brand Recognition

Nalini S. Jagtap, Pooja Mishra, Amol Dhakane, Pratiksha Shevatekar, P P Halkarnikar, and Rachana Mudholkar

Abstract Twitter has become a valuable source of information for businesses and organizations seeking to monitor public sentiment, opinion, and brand recognition. This paper explores various techniques for real-time tweet analysis, including sentiment analysis, graph analysis, and machine learning-based methods, in order to provide organizations with valuable insights into trending topics and public opinion. Sentiment analysis can be achieved using machine learning classifiers, which are useful for evaluating public opinions of businesses and their respective products. By leveraging training data, machine learning techniques can accurately categorize tweets without relying on a pre-existing word database. Twitter analysis gives us insights into people's ideas, experiences, and attitudes. We can understand users' views on numerous topics by studying tweets' language, sentiment, and hashtags. Proposed tweet analysis can reveal public attitude and patterns about movies, restaurants, privacy settings, and other topics. The proposed study can help organizations, researchers, and people understand public opinion, make data-driven decisions, and engage their audience.

Keywords Real-time tweet analysis · Topic tracking · Brand recognition · Public sentiment · Opinion · Trending topics · Social media · Decision-making · Market changes · Public discourse

1 Introduction

Real-time tweet analysis has emerged as a promising method for tracking topics and recognizing brands on social media. Existing research has demonstrated the potential of this approach for analyzing large volumes of tweets and extracting useful insights,

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Threat Analysis and Attack Modeling for Identity Management Solutions

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Abstract. The increased use of Digitization has given rise to "Digital Identity". Existing models have been in use with number of improvisations throughout these years. But, the more centralized nature and control given to service providers have made these models vulnerable to various threats. The identity model is a structure which depicts the entities in a digital identity flow. Apart from having their own pros and cons with respect to application requirements, the models also face threats in a cyber space, Identifying the threats to the identity models will bridge the gap between weaknesses of the system and mitigation strategies. The traditional Identity Models show the Identity management by depicting the relation between service providers and users. Attack tree is one of the many existing threat modeling tools. The simplicity and preciseness of this tool makes it a suitable approach for threat analysis of Identity models. The Risk assessment matrix reflects the level of severity, which helps in identifying the Mitigation Strategy. This paper helps in analyzing the threats with the help of attack trees and Risk matrix model. The paper will also explore the vulnerabilities of the Identity models and propose mitigation strategies for the threats. The Gap analysis presented paves a path for a comparatively better Identity Management Model known as Self-Sovereign Identity, which gives user a complete ownership of his identity.

Keywords: Identity Management, Mitigation, SSI, DID, VC, Federated, Single-Sign-on

Abstract:
Social media networks have developed into a rich source of user-generated material and interactions in the quickly changing digital age. The identification of abnormal behaviour, such as spam, fake news, cyberbullying, and organized disinformation efforts, has become a crucial task due to the overwhelming volume and velocity of data collected. An extensive overview of anomaly detection methods in social media networks is given in this study article. It examines the most recent approaches, stressing the underlying algorithms, benefits, and drawbacks of each. Along with examining the difficulties encountered in real-world applications-such as scalability, data heterogeneity, and the dynamic nature of social interactions-the study also covers a variety of anomalies unique to social media platforms. This survey attempts to provide a thorough road map for researchers and practitioners seeking to improve the security, reliability, and integrity of social media platforms by looking at recent developments and highlighting open research problems.

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Conference Location: Kaski, Nepal

An Efficient Approach for Crop Disease Detection using Deep Learning

Publisher: IEEE Cite This PDF

Sonali Lunawat ; Vaidehi Pawar ; Rajat Deore ; Aditya Bile ; Abhishek Gawade ; Nandita Nikam All Authors

Abstract:
Recognizing plant diseases is crucial for agricultural sustainability and high-quality produce. The conventional manual method of monitoring plant diseases is labor-intensive, requires expertise, and involves lengthy processing times. Despite advancements in machine learning (ML) and predictive analysis, the efficiency of classifying diseased plants remains limited, causing delays in report generation due to dataset constraints. Many researchers have developed crop disease detection models and soil testing models using various deep learning and machine learning approaches but encountered drawbacks such as poor robustness, high training time, and inaccurate accuracy. This research employs a deep-learning classification algorithm to distinguish healthy crops from diseased ones, aiming to provide a comprehensive report on the percentage of diseased and healthy crops, the specific type of disease, and corresponding remedies. The YOLOv5 model is chosen for its superior performance, achieving an accuracy of 0.90, surpassing manual sorting in identifying crop damage. The developed system includes a sensor-based device measuring soil pH, moisture, temperature, and TDS, ensuring optimal conditions for plant growth. Implementation of this method holds the potential to significantly increase crop yield and reduce losses. Notably, the YOLOv5 model stands out among other models due to its speed, accuracy, and proficiency in real-time applications. This model excels in detecting and classifying multiple objects within an image, making it particularly suitable for our plant disease classification task.

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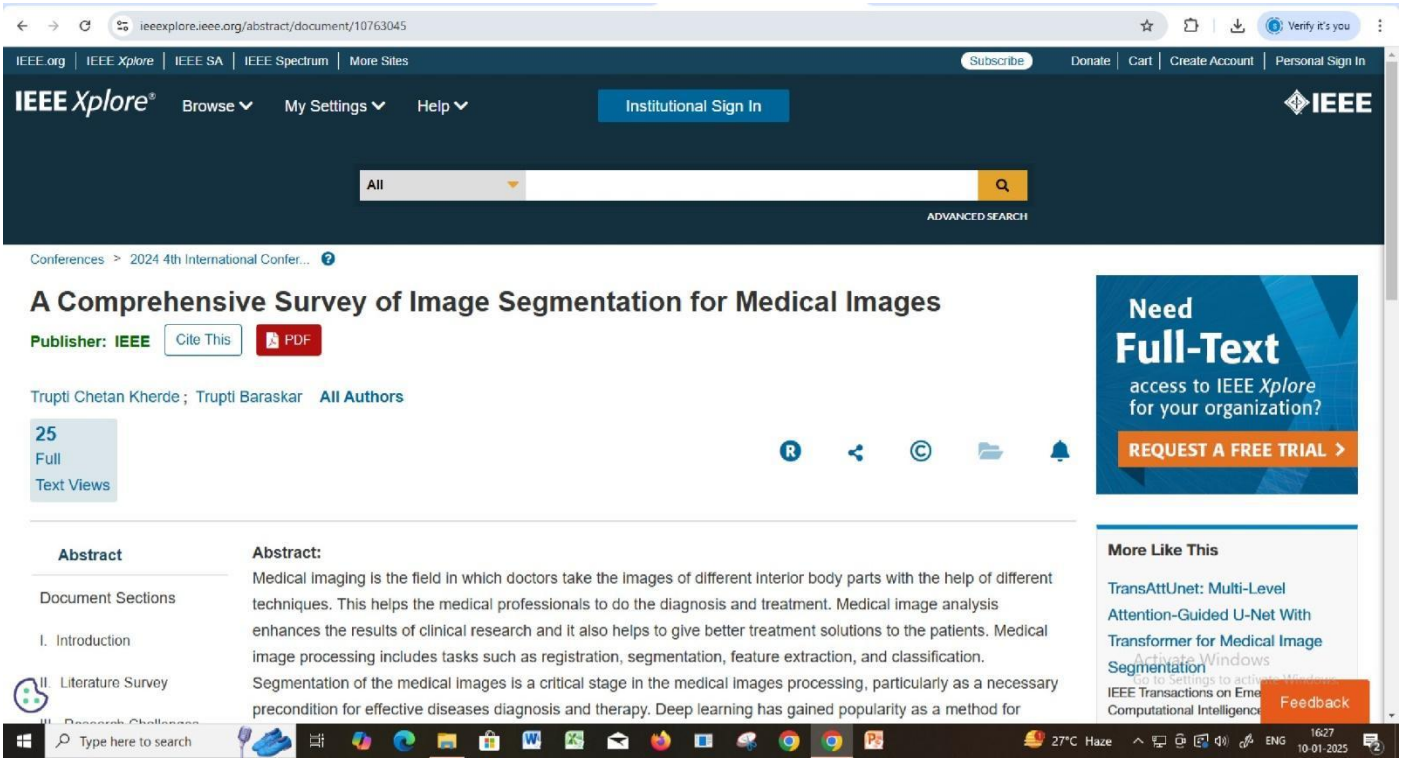
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Abstract
Document Sections
I. Introduction
II. Literature Survey
Abstract:
Medical imaging is the field in which doctors take the images of different interior body parts with the help of different techniques. This helps the medical professionals to do the diagnosis and treatment. Medical image analysis enhances the results of clinical research and it also helps to give better treatment solutions to the patients. Medical image processing includes tasks such as registration, segmentation, feature extraction, and classification. Segmentation of the medical images is a critical stage in the medical images processing, particularly as a necessary precondition for effective diseases diagnosis and therapy. Deep learning has gained popularity as a method for
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Connect: A Secure Approach for Collaborative Learning by Building a Social Media Platform

Sonali Lunawat and Vaidehi Pawar

1 Introduction

Social media is also known as social networking sites like WhatsApp, Facebook, Twitter, etc. A social network [1] as featured in Fig. 1 is the largest utilized platforms for information sharing on the Internet. Social networks allow users to control who can view their profile, upload images, add multimedia content, or change the appearance and feel of their profile, create blogs, comment on postings, and share contact lists. Social networking sites can be defined as collaborative web-based applications that enable users to connect with relatives and connections, meet new people, join interesting communities, communicate, exchange images and event details, and network with others in their real-life groups.

1.1 Critical Characteristics of Social Media Are as Follows

- **Connectedness**: It connects people interested in same areas of work or domains. Through the media, they are connected 24 * 7 using access devices to like, comment, and share or update their profile and follow others.
- **Collaboration**: The people enable themselves to collaborate and create knowledge which can be either open or closed. E.g., Wikipedia

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I. J. Jacob et al. (eds.), *Data Intelligence and Cognitive Informatics*, Algorithms for Intelligent Systems, https://doi.org/10.1007/978-981-99-7962-2_13

Anterior Cruciate Ligament Tear Detection: ML and DL Approaches

Publisher: IEEE Cite This PDF

Madhuri Kulkarni ; Rais Abdul Hamid Khan All Authors

Abstract:
Anterior cruciate ligament (ACL) injuries are a major problem in sports and physical activities; prompt and precise diagnosis is generally necessary for appropriate treatment and recovery. Even if they are trustworthy, traditional diagnostic techniques can be expensive, time-consuming, and prone to human mistake. Artificial intelligence (AI) technologies, including machine learning (ML) and deep learning (DL), are viable options for ACL injury categorization and detection. This study summarizes the state-of-the-art research on the use of ML and DL for ACL injury identification, emphasizing different approaches, datasets, and performance measures. We explore the benefits and drawbacks of current methods and point out directions for further study to improve clinical integration and diagnostic precision.

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An Evolutionary Optimization Based on clustering Algorithm to enhance VANET communication services

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* Madhuri Husan Badole

Abstract. As a framework for facilitating intelligent communication between vehicles and enhancing the topic of interest pertaining to the safety and performance of traffic, VANETs (vehicular ad hoc networks) have developed. Effective communication among the vehicular nodes in VANETs is crucial due to the high vehicle mobility, fluctuating vehicle density, and dynamic inter-vehicle spacing. Hence, the evolutionarily based Honey Badger Algorithm is used to improve communication in VANETs, which can successfully operate in high mobility node settings. HBA is built on an evolutionary algorithm with biological inspiration and a routing protocol based on game theory that dynamically adjusts to changes in network topology and distributes the load across network nodes through cluster formation as clustering improves network performance and scalability. Experimental comparisons of our approach with popular techniques like Ant Colony Optimization (ACO), Hunger Game Search (HGS), Particle Swarm Optimization (PSO), and Firefly Optimization are made (FFO). The performance metrics Packet Delivery Ratio, Throughput, End-to-End Delay, Mean Routing Load, Control Packet Overhead, and Energy used to assess the performance of communication services in VANETs, Experiments are carried out in MATLAB, and findings show that HBA delivers the best results for implementing vehicular services.

Keywords: Vehicular Ad-Hoc Network, Evolutionary Algorithm, Optimization, Clustering, Vehicle Communication.

1. Introduction

VANETs are specifically designed to address the unique challenges of vehicular communications, such as high mobility, frequent topology changes, and limited communication range. VANETs enable communication and information exchange among vehicles and other entities, such as roadside units. The goal of a search

A Review Paper on Object-Detection using the DeepLearning Approach

Publisher: IEEE Cite This PDF

Minal Bodke ; Chetan Patil ; Pratik Chopade ; Yashodhan Patil ; Omkar Patil All Authors

Abstract:
Because of their close association with object identification, video analysis and picture comprehension have drawn a lot of interest in recent years. Detection of conventional objects the solution is built on handcrafted functions and architecture that seems to be trainable. The accumulation produces a little stall in performance. A complicated set made up of numerous low-level pictures and Scene Classifier features with item detectors and high-level context. As the deep learning field matures, more semantic, high-level, Deeper features are developed to solve existing challenges in conventional architecture. In terms of network design, training technique, and optimization function, for example, these models behave differently. This white paper gives an introduction to Deep. A framework for object identification based on learning. our examination starts A short history of deep learning, the representative tool, the Convolutional Neural Network (CNN). Then we concentrate on a standard generic object identification architecture with certain modifications and handy methods. Improve detecting performance even further. particularly specific the features of discovery tasks vary. Monitoring of particular tasks, such as detection of prominent items, face recognition, and pedestrian identification. Examination of experimental data It is also possible to compare various methodologies and get some significant findings. Finally, as guidance for future effort, several intriguing areas and tasks are presented. Both object identification and a neural network-based learning system are involved. One of the biggest difficulties of object detection is that an object viewed from different angles may look completely different. For example, the images of the cakes that you can see below differ from each other because they show the object from different sides.

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2023 International Conference on Advances in Computation, Communication and Information Technology (ICAICCIT)

Design of an efficient deep Learning Model for Segmentation and Classification of Psoriasis and Vitiligo Skin diseases

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***Abstract*— Skin diseases such as psoriasis and vitiligo can greatly impact a patient's quality of life. For correct diagnosis and therapy planning, it is crucial to accurately segment and classify various skin disorders. Existing segmentation & classification models for identification of skin diseases either have low efficiency or have higher complexity when used for clinical scenarios. In order to address these problems, we provide a deep learning model in this study that can automatically separate and categorize vitiligo and psoriasis skin lesions from clinical photos. The suggested model is built on a Convolutional Neural Network (CNN) architecture that has been specifically designed for use in medical image processing applications. Initially, all the collected images are augmented via scale, rotate, width shift, height shift, shear and zoom operations. In proposed approach, train the model on this augmented dataset of clinical images for psoriasis and vitiligo lesions via Transfer Learning based ResNet50 CNN, and evaluate its performance using various metrics such as accuracy, precision, recall, and F1-scores. Proposed approach results show that the proposed model achieves high accuracy in both segmentation and classification tasks. The proposed deep learning model can assist dermatologists and medical professionals in accurately diagnosing and treating skin diseases, potentially leading to better patient outcomes.**

***Keywords*— Skin, Disease, Classification, CNN, Segmentation, ResNet50, Transfer, Learning Scenarios**

I. INTRODUCTION

Skin diseases such as psoriasis and vitiligo affect millions of people worldwide, and can have a significant impact on their quality of life. Skin, nails, and joints are all impacted by the chronic autoimmune condition known as psoriasis. It is characterized by red, scaly patches of skin that might itch, hurt, or feel uncomfortable. Vitiligo, on the other hand, is a skin disorder in which white patches appear on the skin, and is caused by the loss of melanin-producing cells. Both psoriasis and vitiligo are typically diagnosed based on their clinical appearance, but accurate diagnosis can be challenging due to their similar presentation and the potential for misdiagnosis but can be done via use of Deep Convolutional Neural Networks (DCNN) process [1]–[3].

The advancement of cutting-edge technology like deep learning has transformed medical image analysis and has the potential to help dermatologists and other healthcare providers correctly diagnose and treat skin problems. Deep learning is a type of artificial intelligence that involves the use of neural networks to automatically learn patterns and relationships from large datasets. The segmentation of skin lesions involves identifying the boundaries of the lesion and separating it from the surrounding tissue. As it provides accurate measurement and examination of the lesion, this is a crucial stage in the diagnosis and treatment of skin diseases. The classification of skin lesions involves identifying the type of lesion, which can aid in diagnosis and treatment planning process. For the segmentation and classification of psoriasis and vitiligo skin lesions from clinical photographs, a deep learning model is here proposed. The proposed model is based on Transfer Learning

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Conferences > 2023 World Conference on Comm...

Technologies for Primary Storage Of Onions

Publisher: IEEE Cite This PDF

Shreyas Dixit ; Shravani Pulliwar ; Kritika Narware ; Kiran Napte **All Authors**

Abstract:
India is the second producer of onions, all over the world. The dry and humid weather in India makes it tough for onions to remain fresh for extended periods of time. Traditional onion heap storage & bamboo pavilions for ventilated onion storage are inadequate to prolong the life of onions in storage. Until the very next harvest, the onions rot in such kinds of storages over the duration of the year. By decomposing over the span of the year, over 40% of all onions which are retained after harvest get lost. In order to meet the strategic integration of onions for the general public, this lessens the onion reserves year round. The rate of onions rises as a result of the supply crisis. A very fundamental food that is needed by the majority of individuals is onions. Onion shortage and rate hike pose significant challenges for the nation's citizens. India is also the world's second-largest exporter of onions. The country's economy may suffer significantly from an onion shortage. This made clear the value of a stable storage solution for onions in order to maximize their shelf life. Onion preservation will lead to far less weight reduction and physiological deterioration, sustaining the crop's availability all year round. By boosting onion export, proper onion storage would both meet the nation's population's basic necessity of food and enhance the nation's economy.The longevity of onions would be lengthened by using this storage solution. To preserve the quality of onions, this system would give them the optimal temperature (25°C–30°C), humidity (65%–70%), and ventilation. Furthermore, it will detect any rotten onions in the storage and notify the user or client so that they can dispose of them and prevent the infection from spreading to other onions.

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CP202324_ME_1

Injector Deposition and Behavior Change of Diesel Engine Fueled with Calophyllum Oil Biodiesel Blend under 150 Hrs Endurance Test 2023-01-0947

Sustainability, Power and Propulsion

2023-04-11

This experimental investigation was carried out for 150 hours endurance test in the time interval of 50 hours each, with test fuel neat diesel, Calophyllum oil biodiesel blend B25 and water in Calophyllum (WIC) 10 vol. % to blend B25-WIC in a single cylinder diesel engine. The experiment was conducted at constant conditions of engine load 3.0 kW and speed of 1500 rpm. The impact of 150 hours endurance test on injector nozzle deposition and engine parameters like Brake specific fuel consumption, Brake thermal efficiency, Brake specific energy consumption, Exhaust gas temperature, Carbon dioxide, Carbon monoxide, Hydrocarbon, and Oxides of nitrogen were investigated. The findings revealed that water inclusion (10 vol. %) in Calophyllum oil biodiesel blend B25-WIC has a positive impact on diesel engine performance and emission characteristics as compared to biodiesel blends without water inclusion. Gummy and heavy deposition accumulation was observed with biodiesel blend B25 which was higher by 12% than B25-WIC with thin and dry deposition. Engine performance parameters when compared to neat diesel were reported as; BSFC higher for B25 and B25-WIC by 5.85 and 3.99% respectively. The average reduction in BSEC with B25 was 0.025% and by 6.55% with B25-WIC. And BTH was observed to be reduced by 18.14% with B25 and by 10.01% with B25-WIC. Exhaust emissions parameter observed against neat diesel as; CO_2, CO, HC, and NOx shows reduction for B25 by 63.91%, 15.14%, 7.94%, and 2.38% respectively. And for B25-WIC by 52.36%, 27.19%, 18.14%, and 4.56%respectively.

materialstoday: PROCEEDINGS

Volume 98, 2024, Pages 160-165

Synthesis and characterization of Al-AlN composite

Anuj Khond [a], Pranav Charkha [b], Harish Tiwari [c]

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Abstract

In the present work, Al-AlN metal matrix composite is synthesized by liquid metallurgy route. AlN particles are difficult to wet by molten Al because of their sinking tendency due to higher specific gravity. To retain them in a matrix for more time, it is attempted to add sintered powder compacts of Al and AlN into the Al melt at 1173 K using the vortex method. For the conceptual interfacial study of matrix and reinforcement, separate batches of Al-AlN composites with and without Mg are synthesized. The angle formed by particulate with matrix was studied to understand the bonding between them. Interfacial angle measurement indicates the improvement in the bonding of AlN particulates in Al matrix. Hardness is improved by 52% and specific wear rate reduced by 37% for Mg-modified Al-AlN composite than unmodified Al-AlN.

Introduction

Composite materials have emerged as a special class of material capable of superior

Book Chapter Publication (A.Y. 2023-24)

Chapter 8

Silk Fibroin - A Diagnostic Tool for Targeted Drug Delivery System

Priti R. Ghutepatil[1], Rujuta Barve Joshi[1] and Shivaji H. Pawar[2,3]

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Abstract

Drug delivery system has gained lot of attention because of its tremendous impact in healthcare industry. Amongst several other drug delivery methods, targeted drug delivery method is found to be dominant over other methods due to its potential to specifically target a drug to a region of the affected part. Nanomaterial based targeted drug delivery technique is a method of choice as it has a potential to overcome the limitations of other conventional drug delivery methods. Silk fibroin is one of the well-known materials for its use in targeted drug delivery system as it exhibits excellent properties like biocompatibility, biodegradability, optical transparency, fluorescence etc. The timely summary of silk-fibroin as a diagnostic tool for drug delivery system will provide a research perspective to promote the further improvement and development in the drug delivery system.

1. Introduction

Silk is a naturally derived polymer available in large quantities. It is produced by the process of sericulture or silk farming. In sericulture or silk farming process, the silkworms are cultivated and fed with mulberry leaves [1]. Silk fibres are collected from silkworm's cocoons. South Asia is one of the largest silk fabrics producers. The properties and structure of silk can be analysed using modern technologies and advanced tools in chemistry. Silk fibroin has been suggested as a platform for drug delivery in the form of films, hydrogels and porous 3D scaffolds. Due to hierarchical structure and versatility of silk fibroin, it has become immensely popular among

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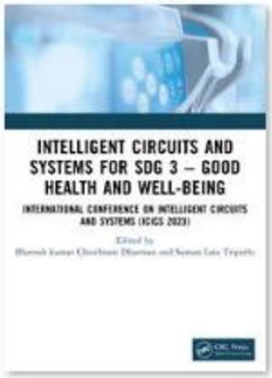

Chapter

Design and Performance Analysis of PV-Based Grid Connected Nanogrid System

By Amita Mane, Shamik Chatterjee, Amol Kalage

Book Intelligent Circuits and Systems for SDG 3 – Good Health and well-being

Edition	1st Edition
First Published	2024
Imprint	CRC Press
Pages	11
eBook ISBN	9781003521716

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Chapter

A Sustainable IoT-Based Smart Transportation System for Urban Mobility

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Book WSN and IoT (https://www.taylorfrancis.com/books/mono/10.1201/9781003437079/wsn-iot?refId=b604b4da-f8ce-4d30-a0c6-bbc5e1d85907&context=ubx)

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ABSTRACT

An intelligent transportation system is a crucial part of the infrastructure needed to transform an urban city into a smart city. As the technology has advanced in recent years, including the emergence of technologies like machine learning (ML) and the Internet of Things (IoT)-based data acquisition and processing systems, building and implementing a smart transportation system has now become easier and more sustainable. The potential for these technologies to reduce air pollution and greenhouse gas emissions, while also relieving traffic congestion, is encouraging. In this section, we will discuss how to plan and build a smart transportation system that leverages IoT to improve urban mobility without compromising sustainability. The proposed system utilizes existing IoT technologies in order to deliver on-road information on traffic, parking, and public transportation using integrated sensors, wireless networks, and cloud storage and processing. To further improve the smart transportation's efficiency, the system incorporates hybrid ML algorithms to analyze and process data collected by IoT sensors. This system can achieve higher accuracy and better sustainability than the real-world (non-smart) system.

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Standardization in the Transformation of Civic Systems Using Safe and Secure Internet of Things Systems

| Chapter | First Online: 22 August 2023

| pp 3–15 | Cite this chapter

Internet of Everything for Smart City and Smart Healthcare Applications

Abhijit Dnyaneshwar Jadhav

Part of the book series: Signals and Communication Technology ((SCT))

Abstract

The economic value of the industrial, smart city, home, and many more transformations by Internet of Things (IoT) across all industries is estimated to be trillions of dollars, and the societal impact on energy efficiency, health, and productivity is enormous. When sensing and intelligence are built into every smart gadget, there is a heightened risk of misuse in addition to any potential benefits. The increased complexity needed to manage IoT devices safely and securely is one of the main issues with their growing quantity. This increased complexity creates new safety, security, privacy, and usability challenges far beyond the difficult challenges individuals face just securing a single device. Herewith, researchers are trying to point out some of the bad trends that smart devices and collections of devices bring about and make the case that problems with security, physical safety, privacy, and usability are intricately intertwined and require simultaneous answers. Tight safety and security standards for individual devices based on existing technology are needed. Likewise, research that identifies the most effective method for people to reliably manage collections of devices must direct the development of such systems in the future.

Connect: A Secure Approach for Collaborative Learning by Building a Social Media Platform

| Conference paper | First Online: 07 January 2024

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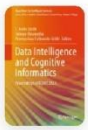

Data Intelligence and Cognitive Informatics

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Sonali Lunawat & Vaidehi Pawar

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Abstract

Nowadays, social networking has become a vital part of human lives. It has become a crucial part since people spend more time on such platforms. Technologies are advancing education, using a variety of resources and delivery methods, and without the restriction for time, space, and location. This platform consists of channels for communication and collaborative learning. Many researchers are working to make use of technology to build applications for collaborative learning using a platform similar to social media. This research proposes to build a platform for faculty-to-faculty connection for collaborative learning to acquire more benefits in terms of sharing research domains, sharing knowledge, and improving teaching skills, by connecting with experts in that domain. To build this architecture, a review of various social media platforms with algorithms used for providing security and privacy has been carried out. Privacy concerns are important part of the study; hence, this architecture is used as an online social network platform; an encryption algorithm is used.

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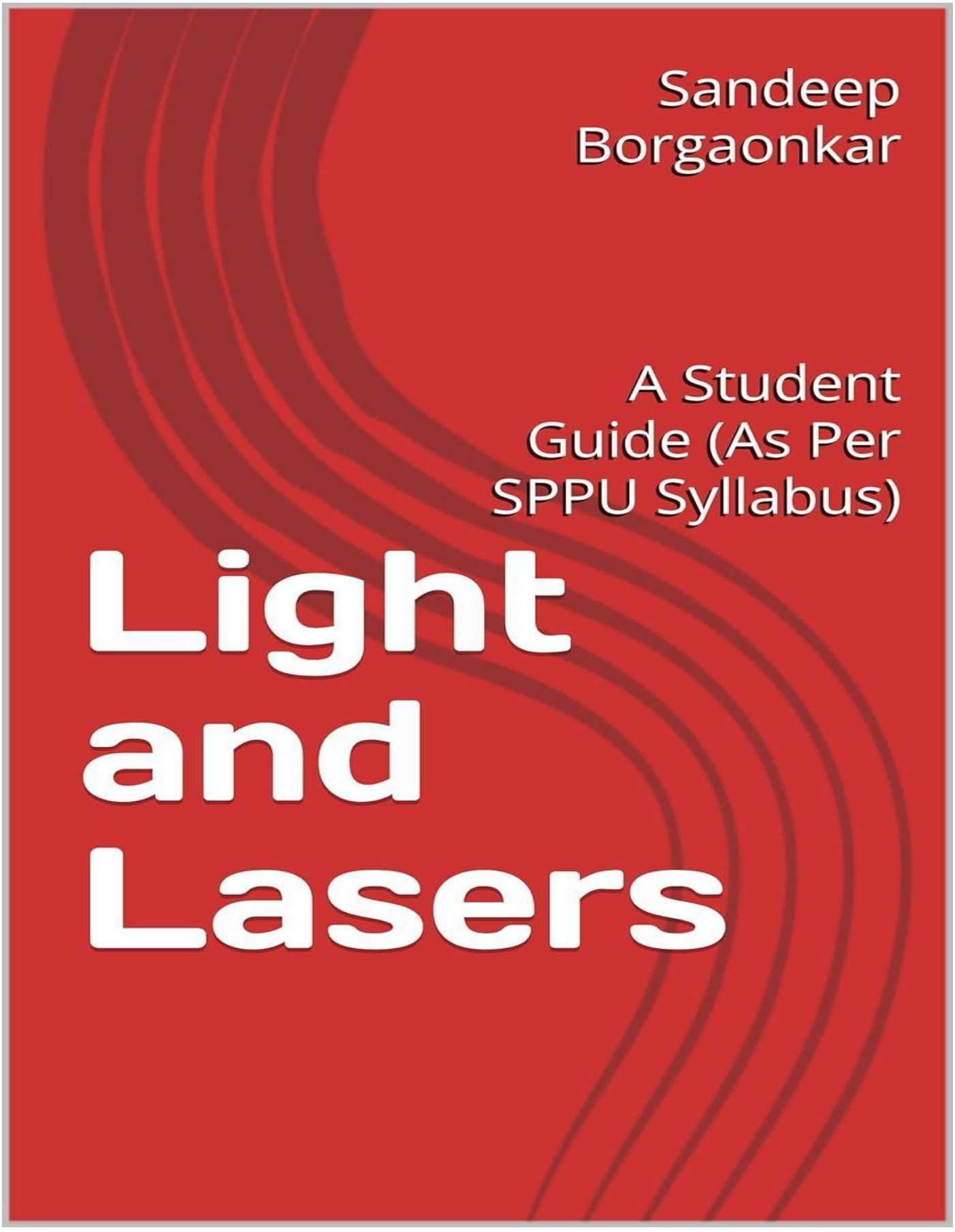
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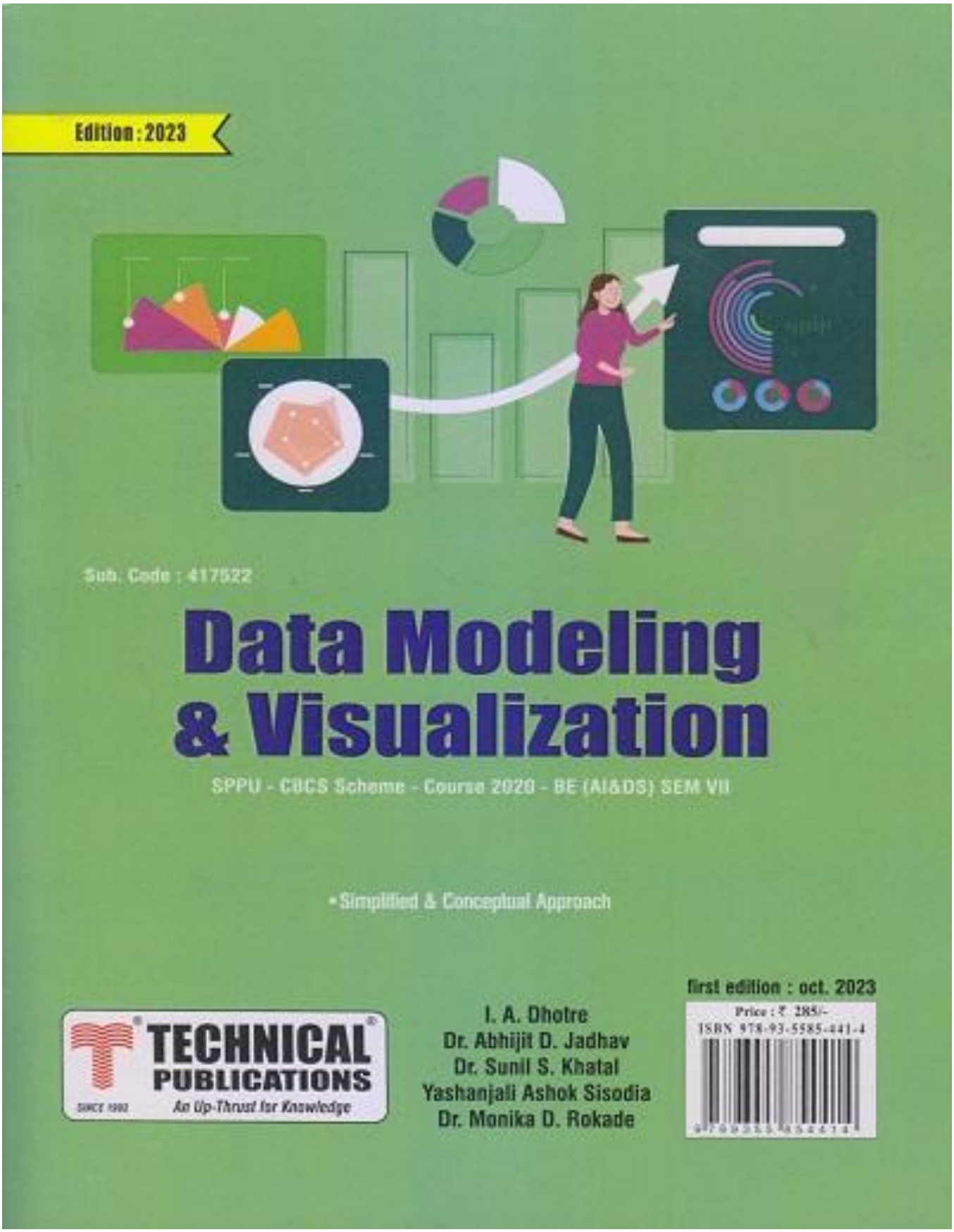
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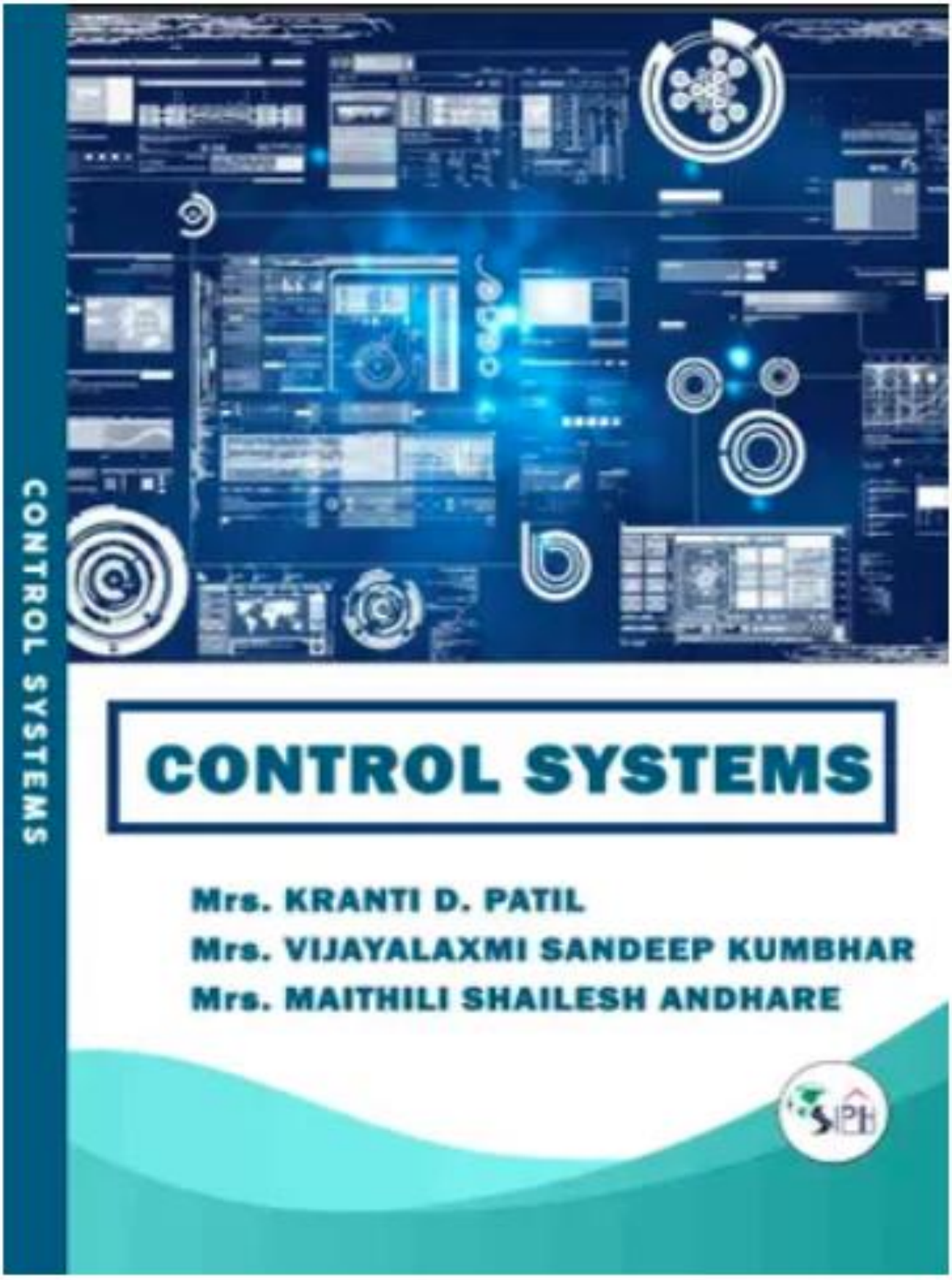
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