



**Pimpri Chinchwad Education Trust's  
Pimpri Chinchwad College of Engineering &  
Research Ravet, Pune**



**Academic Year:** 2025 - 26

**Faculty Profile**

<b>Name of Faculty:</b>	Mrs. Vijayalaxmi Sandeep Kumbhar		
<b>Qualification :</b>	M.E. (VLSI & Embedded Systems), Ph.D. (E&TC) Pursuing		
<b>Teaching Experience :</b>	15 Years		
<b>Industry Experience :</b>	Nil		
<b>Designation :</b>	Assistant Professor		
<b>Department :</b>	Electronics and Telecommunication Engineering		
<b>Date of Joining :</b>	12/06/2015		
<b>Research Areas / Area of Specialization</b>	VLSI & Embedded Systems		
<b>Courses / Subjects Taken:</b>	Digital Circuits, Digital Communication, Control Systems, Analog Communication, VLSI Design & Technology, Network Theory, Wireless Sensor Networks, Digital Signal Processing, Signal & Systems, Innovation & Entrepreneurship		
<b>IPR :</b>	<b>Title</b>	<b>Docker No./ Diary No.</b>	<b>Registered /Filed</b>
	Exigency Robot	202221010551	Published
	Serving plate with glass holder	381400-001	Granted
	Autonomous floor Cleaning Robot	9144/2021-CO/L	Registered
	Soil Analyzing Tool	17449/2019-CO/L	Registered
	Green Campus Based On IoT	777/2018-Co/L	Registered
<b>Research Publications :</b>			
<b>Journal Publications:</b>	<b>Year</b>	<b>Title of Paper</b>	<b>Published in</b>
	2022	A Comparative Analysis of FinFET Based SRAM Design	IJEER
	2022	Hybrid artificial neural network algorithm for air pollution estimation	International Journal of Health Sciences
	2021	Autonomous floor cleaning robot	International Journal of Research in Engineering and Technology
	2021	Making India Paperless Using Cloud for Documentation	Mukt Shabd Journal
	2021	Automatic Pump Motor Starter for Smart Farming using GSM	Journal of Advancement in Communication System

	2019	3-Level Authentication for Bank Locker Security	Int. J. Sci. Res. in Multidisciplinary Studies
	2018	Review on performance enhancement techniques for microstrip patch antenna using metamaterials	International Journal of Recent Trends in Engineering and Research
<b>Conference Publications:</b>	2025	Design and Performance Evaluation of Current Starved VCO using 14nm FinFET Technology	Scopus Indexed IEEE Conference
	2024	Sustainable Agriculture Using Machine Learning and IoT	Scopus Indexed IEEE Conference
	2023	IoT-Enabled RFID-Based Library Management and Automatic Book Recommendation System Using Collaborative Learning	Scopus Indexed Springer Conference
	2023	Create a 32-bit Vedic Multiplier and Compare it Against Other Multipliers Using A Carry Look-Ahead Adder	Scopus Indexed IEEE Conference
	2023	Design of Ultra Low Power, Area Efficient Ring Counter Based SAR ADC	Scopus Indexed IEEE Conference
	2023	Detecting Cybersecurity Attacks in Industrial Internet of Things: A Systematic Literature Review	Scopus Indexed IEEE Conference
	2022	Design and Technology Co-optimization for Investigating Power, Performance, Area and Cost Trade-Offs in FinFET Technologies	Scopus Indexed Springer Conference
	2022	Performance Analysis of FinFET-Based Static Random Access Memory Design	Scopus Indexed IEEE Conference
	<b>Books Publication:</b>	A text book on "Control Systems" in SIPH.	
<b>Profile Link :</b>	<a href="https://vidwan.inflibnet.ac.in/profile/252117">https://vidwan.inflibnet.ac.in/profile/252117</a>		
<b>Product Developed:</b>	04		
<b>Certifications :</b>	<ul style="list-style-type: none"> <li>• AICTE Sponsored QIP PG Certificate Programme in High Performance Computing.</li> </ul>		

	<ul style="list-style-type: none"> <li>• <b>NPTEL Online Certification</b> on CMOS Digital VLSI Design, Control Engineering, Digital Circuits.</li> <li>• Course on Work Smarter, Not Harder: Time Management for Personal &amp; Professional Productivity from <b>Coursera</b>.</li> </ul>
<b>Awards/Appreciation/Achievements:</b>	<ul style="list-style-type: none"> <li>• IEEE Bombay Section Sponsorship for attending IEEE Region 10 Humanitarian Technology Conference 2022 on 16/09/2022 to 18/09/2022 at Novotel Hyderabad.</li> <li>• Proposal for “Awareness and Publicity of Humanitarian Technology Activities (HTA)” in response to IEEE R10 Humanitarian Sustainable Project &amp; Volunteer Training Support Fund 2022 has been approved \$ 400 for Region 10 flagship conference TENSYP 2022.</li> <li>• Received an amount of Rs. 13, 000 /- from IEEE Bombay Section Educational Activities Committee for organizing STEM workshop for Pre-university students.</li> <li>• Received Special recognition Student Branch award during IEEE PES Day 2021 activities.</li> <li>• Received grant of \$2000 for IEEE Pre-University STEM Portal Grant proposal, "Epoxy Based Solar Panel Making Workshop"</li> <li>• Received a grant of \$322 for “ Autonomous Sanitizing Floor Cleaner Robot ” (R10-HTA-020) in response to the IEEE Region 10 &amp; IEEE HAC Special Call for Proposals: Addressing Local Needs During COVID Time</li> <li>• World Record Holder for maximum number of patents filed by women’s on a single day.</li> <li>• Editorial Team Member for Journal of Control System &amp; its Recent Developments</li> <li>• Organizing Member of Four Weeks International Faculty Development Program on “Environment and Sustainability (PO7)”</li> </ul>
<b>Membership:</b>	<ul style="list-style-type: none"> <li>• IEEE</li> <li>• ISTE</li> </ul>
<b>Industrial Training :</b>	<ul style="list-style-type: none"> <li>• Industry Internship on “SoC Design and Implementation”</li> <li>• Industry internship on Design and Development of Sellable Automatic Dispenser: Sanitizer, Water and Liquid</li> <li>• Industrial training at Softcon Systems Private Limited Pune</li> <li>• “Instrumentation &amp; Process automation” at Pune Techtrol Private Limited, Pune</li> </ul>
<b>Resource Person /Expert Session/Jury Invited:</b>	<ul style="list-style-type: none"> <li>• Session on IEEE SIGHT and HAC: Prominent Role in Changing the Trends of Society Challenges in SMELT 3.0 (Section Membership Enhancement and Leadership Training) flagship event organized by IEEE Bombay Section Student Activities Committee (SAC), in association with IEEE Region 10 SAC on 04/09/2022.</li> <li>• Track chair in IEEE Region 10 Symposium (TENSYP-2022) for poster presentation on 2nd July 2022.</li> <li>• Track Chair for the Track "Humanitarian And Social Impacts of Technologies” in IEEE Region 10 Symposium (TENSYP-2022).</li> </ul>

	<ul style="list-style-type: none"> <li>• Publication Chair for IEEE Bombay Section Sponsored 2022 2nd Asian Conference on Innovation in Technology (ASIANCON '2022) on 26 - 28 August 2022.</li> <li>• Conducted a STEM workshop “Experience the Power of Electronics” for 7th, 8th, 9th and 10th standard students of Motilal Talera English Medium School, Moshi, Pune and S.B.Patil Public School, Ravet, Pune. More than 350 students benefited from this workshop.</li> <li>• Delivered a guest lecture on “Controllers and Digital Control Systems” on 16/05/2022 at Trinity College of Engineering, Pune</li> <li>• STEM Champion 2022 for pre-university students sponsored by IEEE TryEngineering.</li> <li>• IEEE Bombay Section PES Day 2021 Student Ambassadors get together on 22/04/2021 organized by IEEE Bombay Section PES Chapter.</li> <li>• Publication Chair for IEEE Bombay Section Sponsored 2021 1st Asian Conference on Innovation in Technology (ASIANCON '2022) on 26 - 28 August 2021.</li> </ul>
<p><b>Workshop/FDP/STTP attended(more than a Week):</b></p>	<ul style="list-style-type: none"> <li>• Workshop on "VLSI to System Design: Silicon to End Application Approach" organized by All India Council for Technical Education (AICTE), Arm Education and STMicroelectronics.</li> <li>• Online three days FDP on “Implementation of TI-Tools” organized by Dr. D. Y. Patil Institute of Engineering, Management &amp; Research, Akurdi, Pune</li> <li>• FDP on "Applied Biomedical signal processing initiative towards e-healths".</li> <li>• 3 Weeks 8 Credit Course on: WhatsApp Outcome Based Education FDP.</li> <li>• FDP on Java by Zeal College of Engineering &amp; Research, Pune in association with Spoken Tutorial Project IIT Bombay.</li> <li>• FDP on LaTeX by Pimpri Chinchwad College of Engineering &amp; Research, Pune in association with Spoken Tutorial Project IIT Bombay.</li> <li>• FDP on Python 3.4.3 by RMD Sinhgad SOE, Pune in association with Spoken Tutorial Project IIT Bombay.</li> <li>• ISTE approved FDP on Machine learning Raspberry pi.</li> <li>• NPTEL-AICTE FDP for the course Control Engineering.</li> <li>• oPIP on Electric Vehicles.</li> <li>• One Week Online Faculty Development Program on “R - Language for analytics and Data Science” organised at Sinhgad College of Engineering, Vadgaon (Bk), Pune in association with Spoken Tutorial Project, IIT Bombay.</li> <li>• One Week online FDP on "Outcome Based Education: A Step Towards Excellence" under Margdarshan Scheme</li> </ul>

	<p>of AICTE, New Delhi.</p> <ul style="list-style-type: none"> <li>• One Week online FDP on "Effective Proposal Writing for Research &amp; Funding" organized by Department of E&amp;TC SITR, Nashik in association with IEEE Women in Engineering.</li> <li>• International FDP on Environment and Sustainability [OE4BW].</li> <li>• One week National Level Online Faculty Development Program on Online Teaching-Learning Processes using ICT Tools for Education 4.0 organized by Department of Information Technology, SVP CET Nagpur, in Computer Society of India.</li> <li>• 2 weeks Live on-line FDP in Application of Moodle LMS and earning competency of Gnomio Moodle creation for OBE.</li> <li>• One Week FDP on Modern Education Tools &amp; Pedagogical Practices for Online Teaching" organized by VIT Mumbai.</li> <li>• Faculty Orientation Workshop on SE(E&amp;TC) revised syllabus (2019 Course) under the aegis of Board of Studies (E&amp;TC/Elex.), Savitribai Phule Pune University, organized by, Dept. of E&amp;TC Engineering, Marathwada Mitra Mandal's College of Engineering, Karvenagar, Pune.</li> <li>• Faculty Orientation Workshop S.E. (E&amp;TC/Elex.) Revised Syllabus 2015 Course Subject: Digital Electronics.</li> <li>• Faculty Orientation Workshop S.E. (E&amp;TC/Elex.) Revised Syllabus 2015 Course Subject: Analog Communication.</li> <li>• One Week National Level STTP on Research &amp; Analytical Approach Beyond CMOS by SIT Lonavala.</li> <li>• Two Days National Level Workshop on Internet of Things (IoT) : Architecture, Challenges, Applications and Tools for Smart Cities.</li> <li>• Two Days National Level Workshop on "Low Power Design Using Quantum Dot Cellular Automata".</li> <li>• AICTE-ISTE sponsored one week Induction/Refresher program on "Recent Trends and Opportunities in AI with IOT Perspective".</li> <li>• NPTEL Workshop by IIT Madras.</li> <li>• IET- Approved One Week Short Term Training Program on "Xilinx Vivado Embedded Design and Cadence IC Design" organized by MIT AOE, Alandi.</li> </ul>
<p><b>Event Organized Inter department /Inter college/ Other recognized</b></p>	<ul style="list-style-type: none"> <li>• 2024 4th Asian Conference on Innovation in Technology (ASIANCON'2024)</li> </ul>

**Industry/IIT's /NPTEL/SPOKE N  
TUTORIAL/ etc.**

- 2023 3rd Asian Conference on Innovation in Technology (ASIANCON'2023)
- 2022 2nd Asian Conference on Innovation in Technology (ASIANCON'2022)
- Webinar on "How to Write a Proposal for Funding"
- Two days Hackathon Competition sponsored by IEEE Bombay Section
- Webinar Series "Learn from the Leaders" Topic: Projects to meet UN Sustainable Development Goals.
- Webinar Series "Learn from the Leaders" Topic: Sustainable Development Plans and Opportunities.
- Webinar on Humanitarian Drone Project from Budding Innovators Topic: Experience sharing after successfully completed Drone Project.
- Digital Poster Making and Presentation Competition Topic: Digital Poster Making on the theme - Technology Deployments to Improve the Quality of Rural Life: 1. Digital Education Outreach 2. Sustainable Energy 3. Smart Agricultural Systems
- Competition for Budding Innovators - 2022
- Convener of Two Days State Level Workshop on "Recent Trends in Mechatronics" on 13th and 14th Dec 2016 at PCCOE&R, Ravet.
- Coordinator for "Faculty Orientation Workshop on BE (E&TC/Elex) Revised Syllabus 2015 Course" for the Subject VLSI Design & Technology.
- Post-COVID19 Rehabilitation - Leveraging opportunities through technology intervention to improve society. (The 3 Days Virtual [i.e. Online Hackathon])
- Virtual Speaker Program on "Introductory presentation on practical electronics for hobbyists, makers, and beginners"
- SKEP Session on "Why and how to write good technical papers?" • SKEP Session on "Renewable Energy using Concentrated Solar Power"
- Quiz on "Clean Energy Revolution"
- Webinar On Embedded technology: Raspberry pi and Arduino Boards
- Webinar on Few Tips on Project Selection and Execution
- Webinar on the interplay between Science, Technology, Engineering & Mathematics
- Webinar on Intellectual Property Rights (IPR)
- Webinar on introduction to embedded systems & opportunities
- ASIANCON 2021
- Session on Development of leadership, interpersonal and team building skills
- Modeling of Digital Communication Systems using SIMULINK
- How to read Datasheets
- GUI Creation in MATLAB

	<ul style="list-style-type: none"> <li>• Solution engineering using embedded technologies</li> <li>• Microelectronics : Advances and exciting career opportunities</li> <li>• Implementation of Networks Security Protocol</li> <li>• Embedded Design &amp; Product Development</li> <li>• Guest Lecture on PID Controller and its applications using MATLAB</li> <li>• One day Seminar on Communication Skills</li> </ul>
<b>Event Organized in Department:</b>	<ul style="list-style-type: none"> <li>• Quarter Tech Talk Table 13.0 (QT3)” in the form of a Panel Discussion on the topic - “Breaking Perception Cybersecurity &amp; its Opportunities</li> <li>• STEM workshop for 8th, 9th and 10th standard students and teachers of Motilal Talera English Medium School (CBSE), Moshi, Pune.</li> <li>• Guest Lecture on Development of leadership, interpersonal and team building skills</li> <li>• VLSI practical using Microwind EDA tool</li> <li>• STEM workshop for 9th standard students of S.B.Patil Public School, Ravet, Pune</li> <li>• HACKTOBERFEST 2022</li> <li>• IEEE Epoxy Solar Camp 1.0</li> <li>• Workshop on Machine Learning Algorithms in Python</li> <li>• TINKERCAD and 3D Printing Workshop</li> <li>• Modeling of Digital Communication Systems using SIMULINK</li> </ul>
<b>University level appointments:</b>	<ul style="list-style-type: none"> <li>• PR/OR External Examiner</li> <li>• Paper Evaluator</li> <li>• Moderator</li> <li>• Paper Setter</li> </ul>
<b>Administrative Duties:</b>	<ul style="list-style-type: none"> <li>• Assistant Professor</li> </ul>
<b>Academics Duties:</b>	<ul style="list-style-type: none"> <li>• Department Academic Coordinator (DAC)</li> <li>• IEEE Student Branch Counselor</li> <li>• Department NBA Coordinator</li> <li>• Communication Lab Incharge</li> <li>• Student Achievements</li> </ul>
<b>Any Other</b>	<p><b>IEEE Volunteering Positions:</b></p> <ul style="list-style-type: none"> <li>• <b>Senior Member IEEE</b></li> <li>• <b>Execom Member 2022</b> IEEE Bombay Section</li> <li>• <b>Chair 2022</b> SIGHT Pratham IEEE Bombay Section</li> <li>• <b>STEM Champion 2022</b> IEEE TryEngineering</li> <li>• <b>Vice Chair 2021</b> SIGHT Pratham IEEE Bombay Section</li> <li>• <b>Secretary 2020</b> SIGHT Pratham IEEE Bombay Section</li> <li>• <b>STEM Ambassador 2021</b> IEEE TryEngineering</li> <li>• <b>IEEE PES Day 2021</b> Activities <b>Ambassador</b></li> <li>• <b>IEEE Student Branch Counselor</b></li> </ul>