

Name	Dr. RAVI KUMAR.M
Position & Affiliation	Associate Professor, Department of ECE
Areas of Interest	VLSI Design & Embedded Systems
Email	ravikumar.ece@cambridge.edu.in
LinkedIn ID	http://www.linkedin.com/in/ravi-kumar-m-80bb0963
Google Scholar ID	https://scholar.google.com/citations?hl=en&user=yUE4NIMAAAAJ
Orcid ID	https://orcid.org/0000-0002-4819-6212
Vidwan ID	270662
Scopus ID	57212244504

Educational Qualifications:

Ph.D	VTU, Belagavi	India	2024
MTech	SJCE Mysore, VTU - Belagavi	India	2007
BE	PDIT, VTU - Belagavi	India	2005

Areas of Research: VLSI, CMOS VLSI ,AMVLSI, Microcontrollers

Brief Profile:

Has Completed PhD in CMOS VLSI domain at VTU, Belagavi, M.Tech from SJCE, Mysore and B.E (ECE) from PDIT, Hospet. He has over Eighteen years of Industry & Academic Experience. The areas of interest are VLSI, CMOS VLSI, AMVLSI, Embedded Systems. Associated with CiTech, K.R.Puram from **Aug 2010 onwards till date.**

Guiding students at various levels (BE, MTech): Guided 28 UG Projects, 15 UG Mini project, 2PG projects.

- ❖ **Awards/Achievements/Others:** Qualified GATE-2005 with 94.16 Percentile,
- Awarded as Best Teacher for the academic year 2023-24.

Courses Taught: VLSI, CMOS VLSI , AMVLSI, Microcontrollers, AEC, DSS, RTS,RTOS,OS, EDC, LIC, Wireless communication, IoT, WC 4G LTE.

Publications/Patents:

Publications	<u>Papers Published</u>
	1. Title: Innovative VLSI System Design and Embedded Architectures Empowered by AI and Machine Learning Advancements Name of the Conference/Journal: International Conference on Emerging Trends in Engineering and Technology ICETET. Volume, DOI, ISSN & Year of Publication: 10.1109/ICETETSIP64213.2025.11156662 16 September 2025. https://ieeexplore.ieee.org/document/11156662

2. **Title:** Cognitive Digital Twin Systems for Predictive Security in AI-Enhanced IoT Environments
Name of the Conference/Journal: 2024 First International Conference on Software, Systems and Information Technology (SSITCON)
Volume, DOI, ISSN & Year of Publication:
DOI: 10.1109/SSITCON62437.2024.10796449
20 December 2024. <https://ieeexplore.ieee.org/document/10796449>

3. **Title:** Smart Energy Management Leveraging Twin Adaptive Pulse Coupled Networks for Dynamic Energy Optimization in IoT-based Electrical WSN
Name of the Conference/Journal: 2025 5th International Conference on Trends in Material Science and Inventive Materials (ICTMIM)
Volume, DOI, ISSN & Year of Publication: DOI :[10.1109/ICTMIM65579.2025.10987961](https://doi.org/10.1109/ICTMIM65579.2025.10987961)
12 ay 2025. <https://ieeexplore.ieee.org/document/10987961>

4. **Title:** Deep Learning based Intelligent Spectrum Sensing Framework Optimizing Dynamic Radio Resource Allocation
Name of the Conference/Journal: 2025 4th International Conference on Distributed Computing and Electrical Circuits and Electronics (ICDCECE)
Volume, DOI, ISSN & Year of Publication: [10.1109/ICDCECE65353.2025.11035996](https://doi.org/10.1109/ICDCECE65353.2025.11035996)
18 une 2025. <https://ieeexplore.ieee.org/document/11035996> .

5. **Title:** A Smart Wi-Fi Enabled IoT Framework for Fishermen Tracking and Communication
Name of the Conference/Journal: 2025 International Conference on Electronics, Computing, Communication and Control Technology (ICECCC)
Volume, DOI, ISSN & Year of Publication: [10.1109/ICECCC65144.2025.11064225](https://doi.org/10.1109/ICECCC65144.2025.11064225)
11 uly 2025. <https://ieeexplore.ieee.org/document/11064225>

6. **Title:** Improved Intrusion Detection in Cyber-Physical Systems with Explainable AI and Hybrid Optimization.
Name of the Conference/Journal: 2025 IEEE International Conference on Emerging Technologies and Applications (MPSec ICETA)
Volume, DOI, ISSN & Year of Publication:[10.1109/MPSecICETA64837.2025.11118490](https://doi.org/10.1109/MPSecICETA64837.2025.11118490)
19 ugust 2025. <https://ieeexplore.ieee.org/document/11118490>

7. **Title:** Harnessing Photons for Next-Generation Computational Speed and Efficiency
Name of the Conference/Journal: 2025 IEEE International Conference on Emerging Technologies and Applications (MPSec ICETA)
Volume, DOI, ISSN & Year of Publication:
[10.1109/MPSecICETA64837.2025.11118775](https://doi.org/10.1109/MPSecICETA64837.2025.11118775)
19 August 2025. <https://ieeexplore.ieee.org/document/11118775>

8. **Title:** Integrating Genetic Algorithm and Leverage the Slap Swarm Algorithm to Optimize the LSTM Model to Predict Cardiovascular Disease
Indexing: Web of science
DOI: <https://doi.org/10.63001/tbs.2024.v19.i>
Year:2024
Journal: Thebioscan.

9. Title: Dimensionality Reduction in Animal Movement Data Using Linear Algebra and Machine Learning
Indexing: Web of science
Year:2024
Journal: Thebioscan.

10. Title: Mathematical Applications and Modelling in Higher Education
Indexing: Scopus
DOI: <https://doi.org/10.53555/kuey.v30i7.6665>
Year: 2024
Journal: Educational Administration: Theory and Practice.

11. Title: Energy efficient resource allocation in cognitive radio networks using self adaptive Harris Hawks Optimization Algorithm
Indexing: Scopus
DOI:
Year: 2024
Conference: International Conference on Wireless Communication and Internet of Everything - Springer

12. Title: Simulation aspects of low power energy efficient phase frequency detector employed in PLL-45nm CMOS process
Indexing: Scopus
DOI: <https://romanpub.com/jaetv5-4-2023.php>
Year: 2023
Journal: International Journal of Applied Engineering & Technology (IJAET)

13. **Title:** Phase Locked Loop Design and Analysis for 45nmCMOS
Indexing: Google Scholar
<https://www.ijstm.com/currentissue3.php?id=3308>
Year:2023
Journal: International Journal Of Science Technology & Management

14. **Title:** A comprehensive study on Design Implementation of CMOS Low Noise Amplifier
Indexing: Google Scholar
DOI: 10.37897.GRJ.2022.V8I12.22.50719
<https://gradivareview.com/volume-9-issue-1-2023/>
Year: 2023
Journal: Gradiva Review Journal

15. **Title:** Design and Analysis of Improved 3-Stage LNA Architecture for CMOS RF Front End Receiver Systems.
Name of the Conference/Journal: International Journal of Intelligent Engineering and Systems
Volume, DOI, ISSN & Year of Publication:
<https://inass.org/wpcontent/uploads/2022/04/2022063002.pdf> 15(3), pp. 12-23
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| | <p>16. Title: Review Paper On Operation Of Vital Health Monitoring Wearable
ISBN-978-81-955351-0-1
Year: 2022
Journal: NCETE-22</p> <p>17. Title: Vocal Eyes Gaze Communication System
ISBN: 978-81-955351-0-1
Year: 2022
Journal: NCETE-22</p> <p>18. Design and Analysis of Improved 3-Stage LNA Architecture for CMOS RF
Front End Receiver Systems
Indexing: Scopus (Q2)
DOI: 10.22266/ijies2022.0630.02
Year: 2021
Journal: International Journal of Intelligent Engineering and Systems</p> <p>19. Title: An Efficient Design Implementation Of OFDM Based Transmission
System.
Indexing: Scopus
https://www.ijstr.org/research-paper-publishing.php?month=july2019
Year: 2019
Journal: International Journal of Scientific & Technology Research</p> <p>20. Title: Smart vehicle prototype of Arduino based Vehicle
Indexing: Google Scholar
Year: 2016
Journal: IRAJ</p> <p>21. Title: Home Automation Prototype using IoT
Indexing: Google scholar
Year: 2016
Journal: International Journal of Engineering Research</p> |
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Patents	<u>Patents Published</u> - Patent Application No: 417885-001 Cbr Number:208948 Cbr Date, time:24/05/2024, 17:47:12 Applicant Name: Dr.Ravi kumar.M Design Application Status:Design Accepted and Published, Journal No 27/2024 & Journal date:05/07/2024. - Patent Application No: 422816-001 Cbr Number:212109 Cbr Date, time:10/07/2024, 19:23:22 Applicant Name: Dr.Ravi kumar.M Design Application Status: Design Accepted and Published, Journal No is 36/2024 and Journal Date is 06/09/2024. - Patent Application No: 424826-001 Cbr Number:213256 Cbr Date, time:26/07/2024, 16:50:23 Applicant Name: Dr.Ravi kumar.M Design Application Status: Design Accepted and Published, Journal No is 37/2024 and Journal Date is 13/09/2024. - Application Number: 430404-001 Cbr Number: 216697 Cbr Date: 13/09/2024 16:41:53 Applicant Name: Dr. RAVI KUMAR M Design Application Status: Design Accepted and Published, Journal No is 43/2024 and Journal Date is 25/10/2024.

	5. Design Patent Title: IOT BASED FACIAL EMOTION DETECTION DEVICE Application No:422816-001, Cbr Number:212109,Cbr Date, time:10/07/2024, 19:23:22, Design Application Status: Design Accepted and Published, Journal No is 36/2024 and Journal Date is 06/09/2024. 6. Design Patent Title: ELECTRIC VEHICLE FOR HANDICAP Application No: 424826-001, Cbr Number:213256, Cbr Date, time:26/07/2024, 16:50:23, Design Application Status: Design Accepted and Published, Journal No is 37/2024 and Journal Date is 13/09/2024. Published & Certified 7. Design Patent Title: SOLAR-FUEL CELL-POWERED (HYBRID ENERGY SYSTEM) AUTONOMOUS ELECTRIC VEHICLES Application Number: 430404- 001, Cbr Number: 216697, Cbr Date: 13/09/2024 16:41:53, Design Application Status: Design Accepted and Published, Journal No is 43/2024 and Journal Date is 25/10/2024. Published & Certified. 8. Design Patent Title: SMART 3D PRINTER HUB Application Number: 436647-001 CBR Number: 220466 CBR Date: 07/11/2024 09:22:38 Applicant Name: Dr. RAVI KUMAR M, Design Application Status: Design Accepted and Published, Journal No is 07/2025 and Journal Date is 14/02/2025 Published & Certified. 9. Design Patent Title: AI BASED SOFTWARE PROGRAM TESTING Design No: 417885-001 4/7/2024 Published & Certified
Book/Book Chapters	1. ISBN : 978-93-340-5199-5 Publisher: Raja Rammohun Roy National Agency for ISBN, Department of Higher Education, Ministry of Education Government of India. 2. IGI GLOBAL (SCOPUS) Book chapter on "Edge accessibility computing and block chain assisted solution for smart cities application" is Published. 3. Deccan International Publishers-Regd under MSME-Govt of India. “Embedded systems and IoT, ISBN: 978-93-49092-52-5.
Member of Professional bodies	1. LMISTE -N Life Membership number is:115911 2. Professional Member of Global Society for Technical Education (GSTE)- F-1586. 3. 3. Professional Membership of the International Association of Engineers (IAENG), AENG membership number is: 529938. 4. Indian National Academy of Engineering (INAE)-Associate Individual Member of INAE.