

Faculty Profile



M. Karthiga, M.E.
Assistant Professor – ECE

HIGHLIGHTS:

- Number of Journal Publications: 4
- Number of Conferences Published In Scopus: 2
- H-Index: 3
- Project Funding Received: Nil
- Patents Published: 2
- Patents Granted: 1

PROFESSIONAL LINKS:

- Scopus ID: 59550837900
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=59550837900>
- Google Scholar ID: [ykOkCwQAAAAJ](https://scholar.google.com/citations?user=ykOkCwQAAAAJ)
- ORCID : 0009-0002-1174-5676
- Anna University Faculty ID: 278563
- AICTE Faculty ID: 1-43355731810
- YUKTHI ID: AICTE PID : 1-6943529
- Anna University Supervisor ID: Not applicable (Ph.D. scholar)
- LinkedIn: Karthiga Prabhakaran

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 3 Years 8 Months
- Industrial Experience: Nil

AREA OF SPECIALIZATION:

- Internet of Things (IoT) & IoT-Blockchain Integration
- VLSI Design & Low-Power Circuit Architectures
- Embedded Systems & Edge Computing
- Machine Learning / Federated Learning for Wireless Sensor Networks
- Digital Electronics, Control Systems & Electromagnetic Theory

Ph.Ds AWARDED WITH DETAILS:

- Nil

PATENTS PUBLISHED/GRANTED:

- IMPROVED FRUIT QUALITY DETECTION USING NEURAL NETWORKS (Patent Published on 19/07/2024)
- EDGE-CLOUD COLLABORATIVE MACHINE LEARNING ARCHITECTURE FOR REAL-TIME IOT DATA PROCESSING (Patent Published on 25/07/2025)
- AUTOMATIC WATER PUMP CONTROLLER (Registered Design under the Designs Act, 2000, Class 10-04, Government of India)

COURSES CERTIFIED:

- Introduction to Operating System (NPTEL) - 58% (Nov 2026)
- Computer Networks and Internet Protocol (NPTEL) - 77% (Apr 2026)
- Accreditation and Outcome Based Learning (NPTEL) - 66% (Oct 2025)
- Embedded System Design with ARM (NPTEL) - 68% (Mar 2025)
- C Programming and Assembly Language (NPTEL) - 60% (Nov 2024)
- Introduction to Industry 4.0 and Industrial Internet of Things (NPTEL) - 72% (Nov 2024)
- Introduction to Internet of Things (NPTEL) - 78% (Nov 2024)
- Introduction to Machine Learning (NPTEL) - 58% (Apr 2024)
- Altium 365 Training Bundle (Altium Certified Training Program) - Completed on 10 May 2025
- Programming with Cloud IoT Platforms (POSTECH, Coursera)
- ARM Cortex (STM32) Fundamentals: Building Embedded Systems (EDUCBA, Coursera)
- Design of CPS with ARM Processor Using Embedded C (L&T EduTech, Coursera)
- Introduction to Internet of Things (IIT Bombay, Coursera)

JOURNAL PUBLICATIONS:

- "Precise Anomaly Recognition Using Advanced Federated Learning in Resource-Restricted WSN With Unreliable Connections" published in International Journal of Communication Systems (Wiley), First published on 16/02/2026, DOI: 10.1002/dac.70424
- "Transforming Urban Resilience with Energy-Efficient IoT-Enabled Blockchain Systems for Disaster Mitigation and Recovery" published in Ain Shams Engineering Journal, Vol. 17, Issue 6, June 2026, Article 104114, DOI: 10.1016/j.asej.2026.104114
- "Integration of Internet of Things, Blockchain and Artificial Intelligence for Scalable and Secure Precision Environmental Management" published in Sustainable Computing: Informatics and Systems, Vol. 48, December 2025, Article 101251, DOI: 10.1016/j.suscom.2025.101251
- "An Upgraded IoT-Based Mobile Ad-hoc Network Enactment Founded on Optimized Signal Strength-Based Routing Algorithm" published in Journal of Intelligent Systems and Internet of Things, Vol. 15, No. 01, PP. 167-174, 2025, DOI: 10.54216/JISIoT.150114
- "An Area and Energy Efficient Static Segment Approximate Multiplier for DSP Applications" published in International Journal of Emerging Technology in Computer Science and Electronics (IJETCSE), ISSN: 0976-1353, Volume 23, Issue 2, June 2016

ACHIEVEMENTS AND AWARDS:

- Completed C Programming (18 modules)

SPECIAL SESSIONS DELIVERED:

- Sensor Data Visualization with Arduino IDE workshop at Saveetha Engineering College on 02/03/2024
- Ultrasonic Intruder Detection System workshop at Saveetha Engineering College on 28/03/2024

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

- One-Week Online STTP on "Recent Trends in AI & ML for Signal Processing Applications and Research using MATLAB" organized by Dr. D. Y. Patil Institute of Technology, with MathWorks & The Institution of Engineers (India) from 05/01/2026 to 09/01/2026
- ATAL Sponsored Faculty Development Program on "Integrating Machine Learning and Deep Learning in Real-Time IoT Systems (in Association with NVIDIA)" held at Saveetha Engineering College from 02/12/2024 to 07/12/2024
- 5 Days Online Faculty Development Program on Exploring the Frontiers of Artificial Intelligence: Theory, Application & Ethics from 08/07/2024 to 12/07/2024
- 7 Days National Level FDP on Python organized by Star International Foundation for Research and Education from 19/03/2024 to 25/03/2024

- Webinar on Transfer Learning Approach for Better Utilization of Pre-Trained Models organized by the School of Computer Science and Engineering on 25/11/2023
- Workshop on VLSI to System Design: Silicon to End Application Approach organized by AICTE ARM Education and STMicroelectronics from 31/07/2023 to 04/08/2023
- "Real-Time Pneumonia Diagnosis Using Feature Extraction and Edge Computing with MAX78000" presented at 2025 IEEE Madhya Pradesh Section Conference (MPCON), Jabalpur, on 29-30/08/2025 (IEEE, DOI: 10.1109/MPCON66082.2025.11256728)
- "Optimizing Edge Computing Performance Using Machine Learning for Low-Latency Applications" presented at 2025 World Skills Conference on Universal Data Analytics and Sciences (WorldSUAS), Indore, on 22-23/08/2025 (IEEE, DOI: 10.1109/WorldSUAS66815.2025.11198929)
- "An Area and Energy Efficient Static Segment Approximate Multiplier for DSP Applications" presented at International Conference on Innovative and Emerging Trends in Engineering and Technology (ICIETET'16) at Panimalar Institute of Technology on 07/05/2016
- "Energy Efficient Static Segment Approximate Multiplier for DSP Applications" presented at National Conference on Communication and Control System (NCCS) at KCG College of Technology on 16/04/2016

OTHER DETAILS (If any):

- Pursuing Ph.D. (ECE) at Anna University since August 2024; 3 coursework papers completed
- Completed C Programming (18 modules)
- In-Plant Training: HCL Carrier Development Center (Real-Time Networking & CCNA); Zealsoft Technology Solutions, Madurai (Embedded Systems); K.C.G. College of Technology (IoT Workshop)
- Technical Skills: C, C++, Verilog, VHDL, Xilinx ISE, Cadence (Virtuoso & NCLaunch), PSpice, Proteus, Arduino IDE, STM32 CubeIDE
- Languages Known: English, Tamil
- ORCID: 0009-0002-1174-5676