

Faculty Profile



Dr. Kalaivani C T , M.E., Ph.D
Associate Professor/ECE

HIGHLIGHTS:

- Number of Journal Publications:39
- H-Index:5
- Project Funding Received:Nil
- Patents Published:3
- Patents Granted:2

PROFESSIONAL LINKS:

- Scopus ID: 58542880500
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=58542880500>
- Google Scholar ID: RIeRx5gAAAAJ
- Anna University Faculty ID: 2122033
- AICTE Faculty ID: 1477784671
- Anna University Supervisor ID: Nil
- LinkedIn: <https://www.linkedin.com/in/kalaivani-ravisundar-1044281a>

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 19.5 years
- Industrial Experience: Nil

INTERNATIONAL EXPOSURE: Nil

AREA OF SPECIALIZATION:

- Embedded System
- Network Control System
- Machine Learning
- Antenna Design

PATENTS PUBLISHED/GRANTED:

- COAGULATION ANALYSIS DEVICE FOR ANTICOAGULANT THERAPY, Kalaivani C T, Rohini, Patent No. 406931-001, Engineering and Technology, Granted, Filed 2024-02-08, Published 2024-04-24
- IoT based Embedded System for Vegetable Cultivation, C Srinivasan , Srigitha S. Nath , Sheeba Joice ,M. Selvi , M. Vanitha ,C.T. Kalaivani , Vigneshwaran R , Kamala Priya M, Thulasiragavan P V , Evangeline Priyaa , Patent No. 202341008343 A, Granted
- UNDERWATER IMAGE NOISE CANCELLATION USING GAN-CLAHE&NBSP;DEEP LEARNING MODEL, C. T. KALAIVANI, Archana, Patent No. 202341061556 A, Published, Filed 2023-09-13, Published 2024-02-02
- FOREIGN OBJECT DEBRIS ON THE AIRPORT RUNWAYS USING CNN BASED MODEL, C. T. KALAIVANI, Archana, Patent No. 202341061554 A, Published Filed 2023-09-13, Published 2024-02-02

COURSES CERTIFIED:

- 7 NPTEL courses certified
- Successfully completed course on “Learning How to Learn: Powerful mental tools to help you master tough subjects!” by Deep learning solution through coursera in June 2020
- Successfully completed course on “ Leadership and Emotional Intelligence!” by Deep learning solution through coursera in June 2020
- With destination Completed IUCEE International Engineering Educator Certification Program Spring 2020
- Completed a six month course on “Mentoring” from Coimbatore Psychology Foundation in Dec 2019
- Completed a six month course on “Students Counseling” from Coimbatore Psychology Foundation in Nov 2014

ACHIEVEMENTS AND AWARDS:

- IGIP award received 2023
- IUCEE Honourable membership received in 2024

SPECIAL SESSIONS DELIVERED:

- Delivered a lecturer in career guidance topic “Navigating your Future: Unleashing Potential in the path to Career Success” Sri Sb Vijaya Reddiar Memorial Matric Higher Secondary School in Avadi
- Delivered a lecturer in” The Power of Machine Learning in Healthcare” in HVF KV school, Avadi
- Delivered five lecturer in National Online On Blooms Taxonomy Higher Order Thinking Skills In Electronics And Communication Engineering in Saveetha Engineering college

- Delivered a lecturer in FDP in Embedded system on the topic “Embedded system Design tools” in Saveetha Engineering College
- Delivered lecturer in the topic “Modeling of EDLC, Issues in Hardware and software Co-Design” in Velammal Engineering College
- Delivered a lecturer in FDP in VLSI systems and its Application on the topic “Xilinx-Physical Structure and Hands on Experience” in Velammal Engineering

PROFESSIONAL MEMBERSHIPS:

- ISTE, IUCEE

BOOKS PUBLISHED

- “Antennas and Microwave Engineering” Charulatha publication. **ISBN : 978-93-5577-002-8**

OTHER DETAILS (If any):

- Conference coordinator for International Conference on Smart structures and Systems- ICSSS 2025”
- Organized “Technical assistants training” two weeks for Lab Assistants, June 2021
- Organized “Technical assistants training” two weeks for Lab Assistants, April 2020
- Coordinator for National level Faculty Development Program on Antenna And Microwave Engineering during 22/6/2020 to 26/6/2020
- Coordinator for National level Faculty Development Program on EC8791- Embedded And Real Time Systems during 15/6/2020 to 19/6/2020
- Conference coordinator for International Conference on Smart structures and Systems- ICSSS 2018”
- Organized Workshop on Ethical Hacking during 21/09/2018 to 22/09/2018
- Organized Workshop on DIP using MATLAB during 15/10/2018
- Conference coordinator for International Conference on Smart structures and Systems- ICSSS 2017”
- Workshop coordinator for ICSSS 2017-Pre Conference Workshop

SCI & Scopus Indexed Journal Paper Publications

- T. Aravind, A. Hema Malini, C.T. Kalaivani, T. Archana, Transformer-based power forecasting and federated learning-driven fault detection with a quantum-inspired solar power optimization in smart grids, Energy, Volume 361, 2026, 141961, ISSN 0360-5442, <https://doi.org/10.1016/j.energy.2026.141961>
- T. Archana, T. Aravind, C.T. Kalaivani, EABAC-IoT: Decentralized multi-agent scheduling and optimization for heterogeneous IoT networks, Computer Networks, Volume 288, 2026, 112597, ISSN 1389-1286, <https://doi.org/10.1016/j.comnet.2026.112597>
- A. Arul Edwin Raj, Nabihah Binti Ahmad, Jeffin Gracewell, Renugadevi R, C.T. Kalaivani, VLSI design and its hardware implementation for optimal image dehazing with adaptive bilateral filtering, Journal of Parallel and Distributed Computing, Volume 210, 2026, 105186, ISSN 0743-7315, <https://doi.org/10.1016/j.jpdc.2025.105186>.
- Archana, T., Aravind, T., Malini, A.H. et al. Energy-Aware Adaptive Obstacle

Avoidance Based on Meta-Reinforcement Learning with Segmentation for UAV Trajectory Planning. *Int. J. Aeronaut. Space Sci.* 27, 598–618 (2026). <https://doi.org/10.1007/s42405-025-00950-6>

- Kalaivani CT, Renugadevi R, Gracewell J, Arul Edwin Raj A. Reinforcement learning based blockchain model for revoking unauthorized access in Virtualized Network Functions-based Internet of Things Mobile Edge Computing. *Trans Emerging Tel Tech.* 2024; 35(5):e4981. doi: 10.1002/ett.4981
- Kalaivani CT. et al. Effect of p-GaN layer and High-k material in InGaN/GaN LED for optical performance enhancement. *J Opt* (2024). <https://doi.org/10.1007/s12596-024-02042-2>
- A. Arul Edwin Raj, Nabihah Binti Ahmad, J. Jeffin Gracewell, R. Renugadevi, and C.T. Kalaivani. 2025. Enhancing driver assistance systems with field-programmable gate array based image Filtering: Implementation of adaptive image processing framework for real-time filtering. *Eng. Appl. Artif. Intell.* 160, PC (Nov 2025). <https://doi.org/10.1016/j.engappai.2025.111921>
- Kalaivani C T, 2025. Spatio-temporal changes of chl *a* concentration with environmental parameters over the Gulf of Mannar, India. *Nature Environment and Pollution Technology*, 24(3), B4257. <https://doi.org/10.46488/NEPT.2025.v24i03.B4257>
- Jeffin Gracewell, A. Arul Edwin Raj, C.T. Kalaivani, and Renugadevi R. 2025. Hierarchical aspect-based sentiment analysis using semantic capsules multi-granular networks. *Inf. Syst.* 132, C (Jul 2025). <https://doi.org/10.1016/j.is.2025.102556>
- Renugadevi R, Kalaivani CT, Arul Edwin Raj A, Gracewell J. Dynamic edge clustering and task scheduling for edge assisted metaverse system in the field of remote work and collaboration. *Concurrency Computat Pract Exper.* 2024; 36(18):e8139. doi: 10.1002/cpe.8139
- T. Archana, C. T. Kalaivani, C. Nachammai; Analysis of multi-parameter in underground mines for miners safety monitoring system based on wireless sensor technology. *AIP Conf. Proc.* 5 March 2024; 2935 (1): 020024. <https://doi.org/10.1063/5.0198823>
- C. T. Kalaivani, et al, “Refractive index sensor based on terahertz metamaterial absorber”, *JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS*, Vol. 25, No. 5-6, May – June 2023, p. 213 - 220
- C. T. Kalaivani, et al, “Effective channel allocation for hybrid network usage between wi-fi and cellular network,” *Intelligent Automation & Soft Computing*, vol. 34, no.3, pp. 1617–1627, 2022.
- C.T.Kalaivani, Dr.N.Kalaiarasi, “Earliest deadline first scheduling technique for different networks in network control system” *The Springer, Neural Computing and Applications*, ISSN 0941-0643, Vol 10, Issue 9, <https://doi.org/10.1007/s00521-018-3729-1> , Impact factor 4.213
- C.T.Kalaivani, Dr.N.Kalaiarasi, “Comparison of Robust Control Methods of Gain Scheduling in Networked Control Systems” *International Journal of Printing, Packaging & Allied Sciences*, Vol. 4, No. 4, December 2016, ISSN 2320-4387, page 2578-2589
- C.T.Kalaivani, Dr.N.Kalaiarasi, “Robust scheduling Analysis for stability constraints in network control system” *International review on computers and software* 2014, ISSN :1828- 6003

- C.T.Kalaivani, Dr.N.Kalaiarasi “Rate Monotonic scheduling analysis for stability constraints in Network control system” IOSR-Journal of electrical and electronics engineering 2014, ISSN :2320-3331
- C.T.Kalaivani, Dr.N.Kalaiarasi, “Testing and implementation multi resonating antenna for GSM/UMTS/LTE Operations” in International Journal of Advanced Engineering Technology, E-ISSN 0976-3945, Vol. VII/Issue I/Jan.-March.,2016/423-426
- Kalaivani C T , Analysis And Reduction Of SI And Emission From PCB Trace , International Journal of Advances in Science, Engineering and Technology(IJASEAT) , pp. 20-23, Volume-4,Issue-3,2016.
- C.T.Kalaivani, et al “Scheduling for the Real Time Antilock Braking System” in International Journal of Innovative Research and Development, ISSN: 2278-0211, Vol 2, No 3,2013
- Meenakshi and C. T. Kalaivani. “Enhance Node Lifetime Using Residual Battery Capacity in Mobile Adhoc Networks.” Applied Mechanics and Materials, vol. 573, Trans Tech Publications, Ltd., June 2014, pp. 377–380. <https://doi.org/10.4028/www.scientific.net/amm.573.377>
- C.T.Kalaivani, et al “Low Noise Amplifier Microstrip Antenna Array Using Honeycomb And Alumina” International Journal of Applied Engineering Research, Vol 10(44):31205, 2015
- Abishek, K.S., C T, Kalaivani, Samiappan, Dhandapani, “Video watermarking technique for authentication and security”, International Journal of Applied Engineering Research