

Faculty Profile



Dr. G. Karthika, M.E., Ph. D
Assistant Professor - ECE (SCOFT)

HIGHLIGHTS:

- Number of Journal Publications : 13
- H-Index : 03
- Project Funding Received : Nil
- Patents Published : 12
- Patents Granted : 02

PROFESSIONAL LINKS:

- Scopus ID : 57880927900
- Scopus Link : <https://www.scopus.com/authid/detail.uri?authorId=57880927900>
- Google Scholar ID : G. Karthika – Google Scholar
- Anna University Faculty ID : 279022
- AICTE Faculty ID : 1-725797382
- Anna University Supervisor ID : NA
- LinkedIn : <https://www.linkedin.com/in/karthika-ganesan-919280157/>

PROFESSIONAL BACKGROUND:

- Teaching Experience till date : 17 Years
- Industrial Experience : Nil

INTERNATIONAL EXPOSURE:

- Worked as a Lecturer in Electronics and Communication Engineering department of St. Joseph College of Engineering and Technology, Tanzania from November 2009 to September 2011.

AREA OF SPECIALIZATION:

- Image Processing
- Pattern Recognition
- IoT and PLC

Ph.Ds AWARDED WITH DETAILS:

S:No	Name of Scholar	Title of Thesis	Year of Completion	Full Time/Part Time
		NA		

Ph.Ds GUIDING:

- **Full Time Scholars : NA**
- **Part Time Scholars : NA**

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY:

- Tamil Nadu State Council for Science and Technology (TNSCST) sponsored Student project titled “Machine Twin” in the year 2021.

PATENTS PUBLISHED/GRANTED:

1. Smart Bridge Monitoring System Utilizing AI and IoT for Real-Time Structural Assessment: 202541048056 A, Published on 13th June 2025.
2. IoT Based Real Time Rail Defects Monitoring and Predicting Using AI Based Acoustic Signal: 202541048068 A, Published on 13th June 2025.
3. An Intelligent Hand Gesture-Based On/Off Controller for Smart Home Automation: 202541038960 A, Published on 16th May 2025.
4. AI-Enhanced Wireless Underground Sensor Networks (WUSNS) For Smart Agriculture and Environmental Monitoring: 202541038985 A, Published on 16th May 2025.
5. AI-Driven Smart Health Hub for Rural Communities: 202541013369 A, Published on 28th February 2025.
6. Real-Time Voice-Activated Humanoid Information Assistant: 202441071360 A, Published on 4th October 2024.
7. Real-Time Ground Water for Identification and Monitoring System: 202441080354 A, Published on 20th October 2024.
8. Bio-Inspired Neural Network Architecture for Real-Time Power Grid Optimization And Fault Detection: 202441061914 A, Published on 23rd August 2024.
9. Covid Protection Device: 202141059877, Published on December 2021 and granted on July 2023.
10. Digital Twin of a Centrifugal Pump: 201941028918, Published on Jan 2021 and granted on March 2023.
11. Wearable Coat for Coal Miner and A Method of Early Warning of Disaster and Health Parameters: 202241052900 A, published on March 2024.
12. AR Assistance for Instrument Operation and Calibration: 202141006094, Published on Feb 2021 and granted on October 2024.
13. Fault Detection and Identification of Solar Panels Using Arm Processor: 201841047830, Published on June 2020.

COURSES CERTIFIED:

- Completed the Coursera online course on “Image and Video Processing: From Mars to Hollywood with a Stop at the Hospital” on January 2021.
- Successfully Completed the NITTT modules (1, 2, 4, 6) organized by AICTE and NITTT.
- Completed the NPTEL course on “Python for Data Science” in the year 2023.

- Completed the Infosys Spring board online course on “Computer Vision: AI & Computer Vision” on January 2023.
- Completed the Infosys Spring board online course on “Introduction to Internet of Things” on January 2022.
- Completed the Infosys Spring board online course on “Introduction to Internet of Thing OpenCV 3 - Getting started with Image processing” on January 2022.
- Completed the Infosys Spring board online course on “Hands-On Deep Learning for Computer Vision” on January 2023.

ACHIEVEMENTS AND AWARDS:

BOOKS/BOOK CHAPTERS:

1. Mr.R.Karthickmanoj, Dr.S.Nanda Kumar, **Mrs.G.Karthika** and Dr.A.Mary joy Kinol, “DIGITAL ELECTRONICS”, Scientific Publications, ISBN : 978-93-5757-123-4.

AWARDS:

- she has received “**Commendable Performance Award for the Project**” demonstrating the Project “Digital twin of Pump” in the Mitsubishi Electric Cup 4 held on 15-16 February 2019, Delhi
- she has received “**Mentorship Certificate**” from Smart India Hackathon, MHRD, in the year 2020.
- she has received “**Mentorship Certificate**” from VIRTUSA for winning the third prize in RMK Toy hackathon in the year 2020.

SPECIAL SESSIONS DELIVERED:

- NA

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

1. Participated and presented the paper titled “Predicting Customer Purchase Intent using Logistic Regression: A Data- Driven Approach” in Second International Conference on Machine Learning and Autonomous systems organized by Stamford International University, Bangkok, Thailand on 10th -12th March 2025.
2. Participated and presented the paper titled “Humanoid Info-Bot using NLP technology in real time” in First International Conference on Advent Trends in Computational Intelligence and Communication Technologies organized by Pokhara University Lekhnath, Kaski, Nepal on 15.10.2024. (AIP Conference Proceedings)
3. Participated and presented the paper titled “Machine Learning-Based Textile Fabric Defect Detection Network” in the 4th International Conference on Sustainable ExpertSystems (ICSSES) 2024 (pp1470-1477), IEEE. (Scopus Indexed)
4. Sharma, D.M., Mb, S.O.N.I., KN, N., Karthika, G., Philip, J.M. And Rajaram, A., 2024. Enhancing Power Quality In EV Chargers Using A Resonant LLC Converter With Machine Learning Optimisation. Journal Of Environmental Protection and Ecology, 25(7), Pp.2468-2478.
5. Kannan, K., Jagadesan, A., **Karthika, G.**, Pokhariya, H.S., Kaliappan, S. and Kanimozhi,

- K.V., 2023, September. Design and Analysis of Optical Wireless Communication Systems. In 2023 4th International Conference on Smart Electronics and Communication (ICOSEC) (pp. 513-518). IEEE. **(Scopus Indexed)**
6. Singh, R., Chhillar, S., **Karthika, G.**, Pramila, P.V. and Puthilibai, G., 2023, September. Hydro-informatics for drainage management in a smart city using artificial intelligent, IoT and machine learning. In AIP Conference Proceedings (Vol. 2800, No. 1). AIP Publishing. **(Scopus Indexed)**
 7. Vimala, S., **Karthika, G.**, Geetha, C., Reddy, R.V.K., Ganesh, C.S. and Ganesh, R.K., 2023, June. Telemedical Robot Using IoT with Live Supervision and Emergency Alert. In 2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) (pp. 1327-1331). IEEE. **(Scopus Indexed)**
 8. S Raja shree, **G. Karthika**, R. Pitchai , G. Senthilkumar , V G Pratheep, Charanjeet Singh, S.Kannadhasan., 2022, Research and Implementation of Leach Algorithm for Wireless Sensor Networks, International Conference on Materials, Computing, Communication Technologies. **(Scopus Indexed)**
 9. Dr. N. Vini Antony Grace, **Mrs. G. Karthika**, Mrs. L. Aquiline Lydia, S Shalini, “Smart Hybrid Power Supply System for Home Appliances”, IOP Conference Series: Materials Science and Engineering, 2021.
 10. Participated & successfully completed AICTE Training and Learning (ATAL) Academy Online Elementary FDP on “Design Thinking and Sustainable Innovation in Green Communication Systems towards SDG Goals” from 9.12.2024 to 14.12.2024, organized by Saveetha Institute of Medical and Technical Sciences.
 11. Participated & successfully completed “Professional Development Program” from 21.10.2024 to 24.10.2024, organized by NITTTR, Chennai.
 12. Participated in five days Online FDP on “Insights into cutting Edge Technologies” from 16.06.2020 to 20.06.2020 organized by R.M.D. Engineering College.
 13. Participated in the online training program “A Practical approach on Arduino, raspberry pi and compatibles” from 31.08.2021 to 04.09.2021 Conducted by NITTTR.
 14. Participated & completed successfully AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "Trends in Measurement and Control for System Automation" from 2021-6-28 to 2021-7-2 at Birla Institute of Technology.
 15. Participated in six days Online “3D Printing and Embedded System” from 16.05.2022 to 21.05.2022 conducted by R.M.K. ENGINEERING COLLEGE, Kavaraipettai.
 16. Participated in the “One day Orientation Workshop on AICTE IDEA Lab” on 24.03.2022 conducted by R.M.K. ENGINEERING COLLEGE, Kavaraipettai.
 17. Participated in the “Intellectual Property Rights and Entrepreneurship” from 07.03.2022 to 09.03.2023 organized by Programme Monitoring office – Innovation & Entrepreneurship Development Programme, Chennai.
 18. Participated in the AICTE Recognized Faculty Development Programme on Preparing Students for the Placements - Resume, GD and Interview Conducted by Education and Educational Management Department from 17/07/2023 to 21/07/2023 (One Week) at NITTTR, Chandigarh.
 19. Participated in the AICTE Recognized Faculty Development Programme on “Scilab Programming for Beginners” Conducted by Electronics and Communication Engineering Department from 24/07/2023 to 28/07/2023 (One Week) at NITTTR, Chandigarh.
 20. Participated in the AICTE Recognized Faculty Development Programme on “Image Processing using MATLAB” Conducted by Electronics and Communication Engineering Department from 25/07/2022 to 05/08/2022 (Two weeks) at NITTTR, Chandigarh.

21. Participated in the AICTE Recognized Faculty Development Programme on “VLSI Devices and Circuits for AI Applications” Conducted by Electronics and Communication Engineering Department from 19/09/2022 to 23/09/2022 at NITTTR, Chandigarh.
22. Successfully completed the Innovation Ambassador training “Advanced Level” conducted in online mode by MOE’s Innovation cell &AICTE during IIC calendar year 2021-22.
23. Successfully completed the Innovation Ambassador training (Foundation Level) conducted by MoE's Innovation Cell & AICTE during the period from 30th June - 30th July 2021 in online mode.
24. Successfully completed the faculty training on “Q PLC & CC-Link Basic Training” May 6th to May 8th ,2015 organized by Mitsubishi Electric India Pvt. Ltd.
25. Successfully completed the faculty training on “FX PLC Training” June 1st to 2nd, 2015 organized by Mitsubishi Electric India Pvt. Ltd.
26. Successfully completed the faculty training on “Skill Development Program for Faculties on Mitsubishi Factory Automation Learning Setup” September 26th to 28th, 2016 organized by Mitsubishi Electric India Pvt. Ltd.

PROFESSIONAL MEMBERSHIPS:

- ISOI LIFE MEMBER, IAENG

OTHER DETAILS (If any):