

Faculty Profile



Dr. K. Michael Mahesh, M.E., Ph.D., MIE

Professor — ECE

HIGHLIGHTS

Number of Journal Publications	13
H-Index	07
Project Funding Received	01
Patents Published	04
Patents Granted	01
Ongoing Ph.D. Scholars Supervised	06
Total Academic / Research Experience	15+ Years

AWARDS & RECOGNITION

- Dr. C. V. Raman Achievement Award — IET UK Young Professional Section
- Recognized Ph.D. Research Supervisor, Anna University, Chennai

PROFESSIONAL LINKS

Scopus ID	57202852137
Scopus Link	scopus.com/authid/detail.uri?authorId=57202852137
Google Scholar	scholar.google.com/citations?user=YxDQyvIAAAAJ
Web of Science	webofscience.com/wos/author/record/AAU-5370-2021
Anna University Faculty ID	2129053
AICTE Faculty ID	1-743322793
Anna University Supervisor ID	4040049
LinkedIn	linkedin.com/in/michaelmahesh
GitHub	github.com/michaelmahesh

PROFESSIONAL BACKGROUND

Teaching / Academic Experience to date	15+ Years
Industrial Experience	Nil

AREA OF SPECIALIZATION

Computer Vision

- Image Processing and Segmentation
- Object Detection and Localization in Surveillance Videos
- Multimodal MRI Analysis for Glioma Tumor Classification
- Video Analytics and Scene Understanding

Deep Learning

- GANs and Deep CNN for Decision-Making in Advanced Driver Assistance Systems
- Hybrid LSTM Architectures for Time Series Analysis
- Neural Networks for Medical Imaging and Brain Tumor Recognition
- Braking Decision Systems for Autonomous Vehicles

Machine Learning

- Optimization Techniques for Secure Multi-Path Data Communication in WSN
- Evolutionary Intelligence for Healthcare Applications
- Advanced Driver Assistance Systems

Generative AI & Agentic AI

- Generative Adversarial Networks (GANs)
- Synthetic Data Generation for Vision Tasks
- LLMs, Prompt Engineering & Retrieval-Augmented Generation (RAG) Systems using LangChain
- Agentic AI Architectures, Tool Calling & Multi-Agent Systems

Certifications-Based Expertise

- Mastering OpenCV for Real-World Applications
- TensorFlow and Keras for Deep Learning Implementations
- AI Applications in Computer Vision and Autonomous Systems

Specialized Applications

- Detection and Localization of Abnormalities in Surveillance Videos
- Pedestrian Behavior Prediction in Intelligent Transportation Systems
- Advanced AI Techniques in Autonomous Vehicle Vision Systems

Ph.D. Scholars Guiding (Anna University)

- Full Time Scholars: 0
- Part Time Scholars: 6

Scholar Details

S.No	Reg No	Name	Degree	Faculty	Reg Year – Sess	Status
1	24139997191	Santhosh S	Ph.D.	ECE	2024 – JUL	Confirmation Completed
2	24244691163	Creesy R	Ph.D.	ICE	2024 – JAN	Confirmation Completed
3	24244997493	Sudha R	Ph.D.	ICE	2024 – JUL	Course Work
4	24244997550	Indumathy R	Ph.D.	ICE	2024 – JUL	Course Work
5	25244991432	Anushia R M	Ph.D.	ICE	2025 – JAN	Course Work
6	25244997279	Jaashika K M	Ph.D.	ICE	2025 – JUL	Course Work

PATENTS PUBLISHED/GRANTED

1. **IoT-Based Device to Measure Sugar Level in Diabetes Using Saliva**
Status: **Granted**
2. **PPG Signal-Based Biometric Recognition for Smartwatch Locking System**
Patent No: 201941045486
3. **Artificial Intelligence-Based Smart Healthcare Monitoring System to Predict and Diagnose Lung Cancer**
Patent No: 202341000695
4. **Detection of Dental Disease Using Convolutional Neural Network (CNN)**
Patent No: 202441085313 A
5. **Internet of Things-Based Civic Infrastructure Oversight and Control Platform**
Patent No: 202441051990

COURSES CERTIFIED

- Certified in Computer Vision & Deep Learning Applications through Big Vision LLC (BigVision.ai), California.
- Completed certification in Mastering OpenCV with Python from Big Vision LLC (BigVision.ai), California.
- Earned certification in Deep Learning with TensorFlow and Keras via Big Vision LLC (BigVision.ai), California.

HIGHLIGHTED RESEARCH PUBLICATIONS

1. **MICH-Net: A Novel Deep Learning Architecture With African Fire Hawk Optimization for Steering Angle Prediction in an Advanced Driver Assistance System**
IEEE Transactions on Intelligent Transportation Systems, 2025 (Q1, SJR: 2.608)
DOI: <https://doi.org/10.1109/TITS.2025.3623324>
2. **Multi-Modal Lung Cancer Detection Using Pyramidal Cascade Neuro-Fuzzy Fractional Network**
Cancer Investigation, 2025 (Q3, SJR: 0.495)
DOI: <https://doi.org/10.1080/07357907.2025.2520610>
3. **PMFHNet: Parallel Maxout Feed Harmonic Network for Road Anomaly Object Detection in ADAS Under Low Light Conditions**
The Imaging Science Journal, 2025/2026 (Q2, SJR: 0.321)
DOI: <https://doi.org/10.1080/13682199.2025.2599711>
4. **Elk Skill Optimizer Enabled Joint Channel Access and Energy Management Algorithm for Dynamic Channel Allocation in WSN**
International Journal of Communication Systems, 2026 (Q2, SJR: 0.419)
DOI: <https://doi.org/10.1002/dac.70421>
5. **Deep Learning-Based Energy Prediction and Tangent Search Remora Optimization-Based Secure Multi-Path Data Communication Mechanism in WSN**

Network: Computation in Neural Systems, 2025 (Q4, SJR: 0.290)

DOI: <https://doi.org/10.1080/0954898X.2024.2393750>

6. **Decentralized Control Design for UAV Swarms Communication**

Discover Applied Sciences, 2025 (Q2, SJR: 0.573)

DOI: <https://doi.org/10.1007/s42452-024-06408-w>

7. **HY-LSTM: A New Time Series Deep Learning Architecture for Estimation of Pedestrian Time to Cross in Advanced Driver Assistance System**

Journal of Visual Communication and Image Representation, 2023 (Q1, SJR: 0.573)

DOI: <https://doi.org/10.1016/j.jvcir.2023.103982>

8. **DeepDrive: A Braking Decision-Making Approach Using Optimized GAN and Deep CNN for Advanced Driver Assistance Systems**

Engineering Applications of Artificial Intelligence, 2023 (Q1, SJR: 1.782)

DOI: <https://doi.org/10.1016/j.engappai.2023.106111>

9. **RBorderNet: Rider Border Collie Optimization-Based Deep Convolutional Neural Network for Road Scene Segmentation and Road Intersection Classification**

Digital Signal Processing, 2022 (Q2, SJR: 0.704)

DOI: <https://doi.org/10.1016/j.dsp.2022.103626>

10. **Detection and Localization of Abnormalities in Surveillance Video Using Timerider-Based Neural Network**

The Computer Journal, 2021 (Q2, SJR: 0.441, ABS: 2)

DOI: <https://doi.org/10.1093/comjnl/bxab002>

11. **DeepJoint Segmentation for the Classification of Severity-Levels of Glioma Tumour Using Multimodal MRI Images**

IET Image Processing, 2020 (Q2, SJR: 0.569)

DOI: <https://doi.org/10.1049/iet-ipr.2018.6682>

12. **Multiclassifier for Severity-Level Categorization of Glioma Tumors Using Multimodal Magnetic Resonance Imaging Brain Images**

International Journal of Imaging Systems and Technology, 2020 (Q2, SJR: 0.601)

DOI: <https://doi.org/10.1002/ima.22357>

13. **Workflow Scheduling Using Improved Moth Swarm Optimization Algorithm in Cloud Computing**

Multimedia Research, 2020 (Quartile: Not Available)

DOI: <https://doi.org/10.46253/j.mr.v3i3.a5>

14. **Evolutionary Intelligence for Brain Tumor Recognition from MRI Images: A Critical Study and Review**

Evolutionary Intelligence, 2018 (Q1, SJR: 0.700)

DOI: <https://doi.org/10.1007/s12065-018-0156-2>

15. **Heterogeneous Graph Convolution Cell Attention Network with Skill Optimization Based Jasmine Fragrance Detection**

Book Chapter, Modeling, Simulation and Optimization: Proceedings of CoMSO 2024, 2026

(Book Chapter)

DOI: https://doi.org/10.1007/978-981-95-4161-4_28

16. **Detecting Early-Stage Stress Levels Using EEG and Heart Rate Monitoring with Enhanced Sparse Fire Hawk Graph Probabilistic Spiking Attention Neural Network**

3rd International Conference on Intelligent Data Communication Technologies and Internet of Things, 2025 (Conference Paper)

DOI: <https://doi.org/10.1109/IDCIOT64235.2025.10915029>

17. **Improving FANET Communication with a QoS Optimized Location-Aided Routing Protocol**

5th International Conference on Smart Electronics and Communication, 2024 (Conference Paper)

DOI: <https://doi.org/10.1109/ICOSEC61587.2024.10722211>

18. **Next-Generation Wearable Antenna: Optimized Multi-Band Performance for Advanced Wireless Systems and Applications**

5th International Conference on Circuits, Control, Communication and Computing, 2024 (Conference Paper)

DOI: <https://doi.org/10.1109/I4C62240.2024.10748486>

19. **Design and Implementation of a Bio-Inspired Robot Arm: Machine Learning, Robot Vision**

International Conference on New Frontiers in Communication, Automation, Management and Security, 2023 (Conference Paper)

DOI: <https://doi.org/10.1109/ICCAMS60113.2023.10526171>

PROFESSIONAL MEMBERSHIPS

- The Institution of Engineers (India) (IEI) — Member ID: M-1755751
 - **Role:** Executive Committee Member (2022–2023)
 - **Chapter:** Kanchipuram Local Centre (KLC), Institution of Engineers (India)
 - **Division:** Electronics and Telecommunication Engineering Division
- The Institute of Electrical and Electronics Engineers (IEEE) — Member ID: 90779944
- The Institution of Engineering and Technology (IET), UK — Membership Number: 1100258975