

Faculty Profile



Dr . SOWMIYA MANOJ M, M.E., Ph.D
Assistant Professor(Senior Grade), ECE

HIGHLIGHTS:

- Number of Journal Publications: 43
Scopus Indexed: 38
SCI : 4
- H-Index: 03
- Patents Published: 14
- Patents Granted: -Nil

PROFESSIONAL LINKS:

- Scopus ID: 57211295854
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=57211295854>
- Google Scholar ID: [1695446757729](https://scholar.google.com/citations?user=1695446757729)
- Anna University Faculty ID: 2677041986
- AICTE Faculty ID: 13738526294
- LinkedIn: www.linkedin.com/in/sowmiya-manoj-9955b3157
- ORCID ID : 0000-0002-5454-0024
- Web of Science Researcher ID : AAZ-1800-2021

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 15.6 Years
- Industrial Experience: Nil

INTERNATIONAL EXPOSURE:

- Served as Conference Session Chair for offline International Conference on Advanced Technology in Engineering and Management -ICATEM 2025 held on July 27 2025 at South East Asia University,Bangkok,Thailand.

AREA OF SPECIALIZATION:

- Digital Image Processing
- Deep Learning
- Biometrics
- Cyber Security

PATENTS PUBLISHED/GRANTED:

1. Enhanced Dual Authentication using Multimodal Biometric framework and Deep Learning Technique Application Number- 202241061691, Journal Number- 44/2022, Journal Date: 04/11/2022 -Indian Patent Office
2. Artificial Intelligence Based Wireless Sensor Network For Distributed Agricultural Weather Station Application Number- 202341037769 Journal Date: 30/06/2023 -Indian Patent Office
3. Affordable Signal Detection For Healthcare Applications Application Number- 202341054895 CBR No-36780 Date :29.09.2023
4. Efficient Prediction of Crime Hotspots using Deep Learning Approaches Application Number- 202441038099 A , Journal Date: 24/05/2024 -Indian Patent Office
5. Arduino Uno Based Voice Output Meter For Visually Impaired Persons Application No.202441084036 A. The Patent Office Journal No. 45/2024 Dated 08/11/2024
6. Design And Analysis Of Heart Attack Prediction System Using Machine Learning Algorithm Application No.202441084035 A. The Patent Office Journal No. 45/2024 Dated 08/11/2024
7. Marker movement Tracking System for Simplicity of picture handling Application No :202541002012 A, Journal Date : 17/01/2025-Indian Patent Office
8. MEMS Based Measurement of Hydrogen Fuel Cell Car Application No : 202541002017 A,Journal Date : 24/01/2025-Indian Patent Office
9. Master/ Slave Transmitter and Receiver System using MODBUS Protocol Application No :202541009325 A, Journal Date :14/02/2025-Indian Patent Office.
10. Wind Energy using VAWT Application No: 202541009321A, Journal Date :14/02/2025-Indian Patent Office.
11. AES Algorithm based Palmprint Recognition with Machine Learning Application No :202541039441A,Journal date : 16.05.2025-Indian Patent Office
12. A CNN Approach for identifying the Diseases in Leaf and Auto Pumping of Fertilizer along with IoT Application No : 202541039401 A,Journal Date :16.05.2025-Indian Patent Office
13. Energy Efficient Semi Automatic car Parking Sysytem Application No :202541082084A A Journal Dare:19.09.2025 Indian Patent Office
14. Blind People Voice Based online Exam Application No :202541082083 A,Journal Date:19.09.2025 Indian Patent Office

COURSES CERTIFIED:

- NPTEL Online Certification in Introduction to Machine Learning with Elite Grade in Oct 2026
- NPTEL Online Certification in Analog Circuits with Elite Grade in 2025
- NPTEL Online Certification in Principles of Communication Systems-I with Elite Grade in 2025
- NPTEL Online Certification in Accreditation to OBE -Elite with Silver in Oct 2025
- NPTEL Online Certification in Introduction to Internet of Things with Elite Grade in 2024
- Completed Advances In Remote Sensing And Geospatial Technologies For Disaster Early Warning, Monitoring and Mitigation conducted by Indian Institute of Remote Sensing (IIRS) outreach E-Online Learning Education Programme (ISRO).
- Completed Introduction to R course and Python for Data Science from Data camp, ATAL Academy and EICT Academy.
- Completed Implementation of OBE and NEP 2020 courses conducted by NITTR from 19.12.2022 to 23.12.2022.

Paper Publications:

1. Regilan, S., Indumathi, R., Jenitha, J.Sowmiya Manoj M. Enhancing the detection of visual-cognitive disruptions in automated dyslexia diagnosis using viscoelastic constitutive artificial neural networks for eye movement analysis. Doc Ophthalmol (2026). <https://doi.org/10.1007/s10633-026-10116-8> (SCI,Annexure 1,Q2)
2. Sowmiya Manoj M and Arul Selvi S. Green Synthesized Zinc Oxide Nanoparticles from Elettaria cardamomum and its Characterization Image Processing and Antiproliferative Activity International Journal of Zoological Investigations Vol. 8, No. 1, 129-137 (2022)(WOS)
3. Sowmiya Manoj.M , Arulselvi.S, Hemalatha.B ,Saravana.S,IOT Based Industrial Air Pollution Control System Using Microcontroller Advancement in Engineering, Science & Technology J. Mech. Cont.& Math. Sci., Special Issue, No.-2, August (2019) pp 251-257(WOS)
4. Sowmiya Manoj. M, Arulselvi. S, Saravana.S, Hemalatha. B Novel Broadband Antenna Design For RFID Tags Advancement in Engineering, Science & Technology J. Mech. Cont.& Math. Sci., Special Issue, No.-2, August (2019) pp 401-411(WOS)
5. S. Saravana , Balaji.S , S. Arul Selvi , M.Sowmiya Manoj Robust Hand Gesture Recognition for Computer Application Advancement in Engineering, Science & Technology J. Mech. Cont.& Math. Sci., Special Issue, No.-2, August (2019) pp 392-400(WOS)
6. B. Hemalatha, Balaji.S, Sowmiya Manoj. M, Kanjula Hrushiekesh Reddy Google Assistant Controlled Home Automation Advancement in Engineering, Science & Technology J. Mech. Cont.& Math. Sci., Special Issue, No.-2, August (2019) pp 251-257(WOS)
7. M. Sowmiya Manoj, M. Praveen Kumar, N. Bala Sanjay; Exploring spine abnormality with deep learning CNN architectures. AIP Conf. Proc. 25 June 2026; 3414 (1): 030010. <https://doi.org/10.1063/5.0330096>
8. Sowmiya Manoj Manoharan, Praveen Kumar Mohan, Nagaraj Bala Sanjay; Palm print identification

using RSA cryptography with machine learning. AIP Conf. Proc. 13 July 2026; 3397 (1): 060021. <https://doi.org/10.1063/5.0348277>

9. M. Sowmiya Manoj, B. Janani, S. Harini; Enhancing skin disease classification through GAN-generated synthetic images for improved CNN training and generalization. AIP Conf. Proc. 25 June 2026; 3414 (1): 050005. <https://doi.org/10.1063/5.0330100>
10. P. Sethuraman, A. Katipelly and M. S. Manoj, "Event-Driven Reinforcement Learning Frameworks for Proactive Customer Friction Detection in Large-Scale Digital Platforms," 2026 IEEE Madhya Pradesh Section Conference (MPCON), Gwalior, India, 2026, pp. 1686-1693, doi: 10.1109/MPCON69668.2026.11508524.
11. R. K. Chennareddy, S. S. D. Thalary, N. K. Kuntamukkala and M. Sowmiya Manoj, "Designing Resilient Enterprise AI Platforms: Integrating Angular-Based Intelligent Interfaces with DevOps-Driven Operational Excellence," 2026 IEEE Madhya Pradesh Section Conference (MPCON), Gwalior, India, 2026, pp. 1137-1142, doi: 10.1109/MPCON69668.2026.11506523.
12. N. Yuvaraj, M. S. Kumar and M. S. Manoj, "Unified Agentic AI Architecture for Data Lineage, Governance, and Predictive Workflow Automation in Enterprise Systems," 2026 IEEE 18th International Conference on Computational Intelligence and Communication Networks (CICN), Manila, Philippines, 2026, pp. 1817-1828, doi: 10.1109/CICN70047.2026.11594381.
13. N. K. Kuntamukkala, R. K. Chennareddy, S. S. D. Thalary and M. S. Manoj, "Building Production-Grade Angular Frontends for Enterprise AI: Resilient Architecture Patterns and Devops-Enabled Deployment Strategies," 2026 IEEE Madhya Pradesh Section Conference (MPCON), Gwalior, India, 2026, pp. 1099-1103, doi: 10.1109/MPCON69668.2026.11508272.
14. M. S. Manoj, A. S and B. S, "Multi-Algorithmic Predictive Traffic Signal Orchestration with Sensor-Fused Emergency Prioritization," 2026 4th International Conference on Integrated Circuits and Communication Systems (ICICACS), Raichur, India, 2026, pp. 1-7, doi: 10.1109/ICICACS68679.2026.11578507.
15. M. S. Kumar, N. Yuvaraj and M. S. Manoj, "Intelligent Orchestration of Master Data and Privacy Compliance via Agentic AI for Customer Lifecycle Optimization," 2026 IEEE 18th International Conference on Computational Intelligence and Communication Networks (CICN), Manila, Philippines, 2026, pp. 1715-1723, doi: 10.1109/CICN70047.2026.11594405.
16. S. S. D. Thalary, N. K. Kuntamukkala, R. K. Chennareddy and M. S. Manoj, "DevOps Excellence for Enterprise AI Systems: Continuous Deployment of Resilient Platforms With Angular Frontend Integration," 2026 IEEE Madhya Pradesh Section Conference (MPCON), Gwalior, India, 2026, pp. 1143-1151, doi: 10.1109/MPCON69668.2026.11508356.
17. Katipelly, P. Sethuraman and M. S. Manoj, "An AI-Powered Event-Driven Architecture for Predictive Customer Experience Management Using Autonomous Decision Agents," 2026 IEEE Madhya Pradesh Section Conference (MPCON), Gwalior, India, 2026, pp. 1084-1091, doi: 10.1109/MPCON69668.2026.11508542.
18. M. S. Manoj, K. V and A. Lavanya, "Integrated Real-Time Women Safety Architecture with Adaptive SOS and Intelligent Alert Routing," 2026 4th International Conference on Artificial Intelligence and Machine Learning Applications Theme: Healthcare and Internet of Things (AIMLA), Namakkal, India, 2026, pp. 1-6, doi: 10.1109/AIMLA67915.2026.11522306.
19. M. S. Manoj, G. P and V. L, "Smart Data Acquisition System Using Industrial IOT," 2026 3rd International Conference on Emerging Trends in Engineering and Medical Sciences (ICETEMS), Nagpur, India, 2026, pp. 1-6, doi: 10.1109/ICETEMS66917.2026.11469320.

20. M. S. Manoj, A. S and B. S, "Low-Power Embedded IoT System for Smart Health and Vital Signs Tracking," 2026 International Conference on Emerging Smart Computing and Informatics (ESCI), Pune, India, 2026, pp. 1-6, doi: 10.1109/ESCI68015.2026.11493311.
21. M. S. Manoj, M. Aashik Riyaz and S. Dharshan, "An Automated Street Illumination System using Piezoelectricity," 2025 Third International Conference on Emerging Applications of Material Science and Technology (ICEAMST), Bengaluru, India, 2025, pp. 1-4, doi: 10.1109/ICEAMST67459.2025.11335703.
22. M. Sowmiya Manoj, V. L and G. P, "Design and Implementation of Biometric Palm Print Identification Using Convolutional Neural Network," 2025 International Conference on Intelligent Computing, Information and Control Systems (ICOIICS), Lalitpur, Nepal, 2025, pp. 903-906, doi: 10.1109/ICOIICS67115.2025.11390344.
23. M. S. Manoj, J. B and H. S, "IoT based on Fruit Quality Detection System with Biosensor Technology," 2024 4th International Conference on Soft Computing for Security Applications (ICSCSA), Salem, India, 2025, pp. 722-726, doi: 10.1109/ICSCSA64454.2024.00123.
24. M. S. Manoj, M. S. N and R. R, "A CNN Approach for Identifying the Diseases in Leaf and Auto pumping of Fertilizer along with IoT," 2024 4th International Conference on Soft Computing for Security Applications (ICSCSA), Salem, India, 2025, pp. 272-277, doi: 10.1109/ICSCSA64454.2024.00049.
25. Latha Rajendran; Kanagamalliga Subramaniyan; Sowmiya Manoj Manoharan "Anomaly detection at wireless body area network coordinators for telemedicine" Proceedings Of The Second International Conference On Innovations In Electronics And Communication Systems (ICIECS2022) 24–26 November 2025 <https://doi.org/10.1063/5.0247138>
26. M. S. Manoj, H. M and A. K, "Palm Print Recognition Using DES Algorithm with Machine Learning," 2024 Second International Conference on Intelligent Cyber Physical Systems and Internet of Things (ICoICI), Coimbatore, India, 2025, pp. 1-5, doi: 10.1109/ICoICI62503.2024.10696295.
27. Sowmiya Manoj, M., Pavan Kumar, Y., Manideep, N., Gandhimathinathan, A. (2024). Arduino Uno–Based Voice Output Meter for Visually Impaired Persons. In: Ponnambalam, S.G., Damodaran, P., Subramanian, N., Paulo Davim, J. (eds) Recent Advances in Industrial and Systems Engineering. RAISE 2023. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-97-4700-9_18
28. Manoj, M.S., Babu, P.A., PraveenKumar, R., Subash, N., Gandhimathinathan, A. (2024). Palmprint Recognition Using AES Algorithm with Machine Learning. In: Ponnambalam, S.G., Damodaran, P., Subramanian, N., Paulo Davim, J. (eds) Recent Advances in Industrial and Systems Engineering. RAISE 2023. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-97-4700-9_25
29. M. S. Manoj, K. R. M and P. K, "Efficient Prediction of Crime Hotspots Using Deep Learning Approaches With Improved Accuracy," 2024 Ninth International Conference on Science Technology Engineering and Mathematics (ICONSTEM), Chennai, India, 2024, pp. 1-5, doi: 10.1109/ICONSTEM60960.2024.10568786.
30. M. Sowmiya Manoj, M. Sheik Misbar Ali, M. Shyam Kumar, K. Sudharsan, D. Gokulavani and G. Kalpanadevi, "A Novel Strategy to Segment the Retinal Layers using Convolutional Neural Network," 2023 4th International Conference on Electronics and Sustainable Communication Systems (ICESC), Coimbatore, India, 2023, pp. 847-852, doi: 10.1109/ICESC57686.2023.10193358.
31. M. S. Manoj, C. Sekar.V, D. V and S. P, "Wind Energy Into Power Using VAWT," in 2023 3rd

- International Conference on Pervasive Computing and Social Networking (ICPCSN), Salem, India, 2023, pp. 1543-1547, doi: 10.1109/ICPCSN58827.2023.00257.
32. M. S. Manoj, K. Madhuri, K. Anusha and K. U. Sree, "Design and Analysis of Heart Attack Prediction System Using ML," 2023 IEEE International Conference on Integrated Circuits and Communication Systems (ICICACS), Raichur, India, 2023, pp. 01-06, doi: 10.1109/ICICACS57338.2023.10099819.
33. M.Sowmiya Manoj, S.Arulselvi Artificial Neural Network Based Biometric Palm Print Recognition System for Security Analysis at International Conference on Electrical and Electronics Engineering ICEEE 2022 University of Malaya, NCR New Delhi, India on 08.01.2022 & 09.01.2022
34. M.Sowmiya Manoj, S.Arulselvi Identification and analysis of palm print in biometric authentication system using SVM techniques Journal of Green Engineering (JGE) Volume-10, Issue-10, October 2020 Page no 9888-9906.
35. M. Sowmiya Manoj, A. John Paul Praveen, K.Subbulakshmi Master/Slave Transmitter and Receiver System using Modbus Protocol “ International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6S2, August 2019 DOI: 10.35940/ijeat.F1080.0886S219
36. Mohanraj, Hemalatha.B, Sowmiya Manoj. “Measurement of Hydrogen Fuel Cell Car using MEMS Sensor”International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6S2, August c2019 DOI: :10.35940/ijeat.F1109.0886S219
37. Hemalatha, Sowmiya Manoj, Ramya” Energy Efficient Semi-Automatic Car Parking System using Raspberry –Pi” International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6S2, August 2019 DOI: 10.35940/ijeat.F1112.0886S219
38. Balaji. S, M. Sowmiya Manoj, G. Kanagavalli” Tracking Marker Movement for Simplicity of Picture Handling” International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6S2, August 2019 DOI:10.35940/ijeat.F1261.0886S219
39. R. Mohanraj, Kanagavalli, Sowmiya Manoj“ Blind People Voice Based Online Exam” International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6S2, August 2019 DOI:10.35940/ijeat.F1010.0886S219
40. Jasmin, M., Manoj, S., Meenaa Kumari, M. Leaf disease analysis using smart system International Journal of Engineering and Advanced Technology(IJEAT), ISSN: 2249 – 8958,2019, 8(6 Special Issue 2), pp. 362–367 August 2019 DOI: 10.35940/ijeat.F1099.0886S219
41. M.Sowmiya Manoj Automatic Irrigation Using Microcontroller Basing On Pressure Published At International Journal Of Pure And Applied Mathematics Volume 116 No. 20 2017, 349-353 Issn: 1311-8080 (Printed Version); Issn: 1314-3395 (On-Line Version)
42. M.Sowmiya Manoj Vehicle Detection By Ultrasonic Waves Without Battery Published At International Journal Of Pure And Applied Mathematics Volume 116 No. 20 2017, 349-353 Issn: 1311-8080 (Printed Version); Issn: 1314-3395 (On-Line Version)
43. M.Sowmiya Manoj Biometric Authentication Of Palmprint Identification published at International Journal of Pure and Applied Mathematics Volume 116 No. 20 2017, 349-353 ISSN: 1311-8080 (printed version); ISSN: 1314-3395 (on-line version)
44. M.Sowmiya Manoj Wavelet Combination Of Palmprint Identification Published At International Journal Of Pure And Applied Mathematics Volume 116 No. 20 2017, 349-353 Issn: 1311-8080 (Printed Version); Issn: 1314-3395 (On-Line Version)

ACHIEVEMENTS AND AWARDS:

1. Received BEST TEACHER AWARD of the year 2024-2025
2. Recognized as an STAR FACULTY in Femina 2K25-Womens Day Celebration Event conducted by SIMATS Engineering on 01.03.2025
3. Received an Award for B.E TOPPERS (college) from 1st year to final year in Anna University examinations from Home minister A.K.MURTHY
4. Received College Topper award from Vice Chancellor, Anna University during B.E
5. Received an ARCHBISHOP ARULLAPPA AWARD for PROFICIENCY
6. Received an award as UNIVERSITY THIRD RANK HOLDER for ME (Applied Electronics)

SPECIAL SESSIONS DELIVERED:

1. Resource person for 6 Days FDP on AI Driven Technologies for Electronics, Computing and Smart Systems organized by Chennai Institute of Technology, Chennai on 09.10.26
2. Resource person for 7 Days FDP on Advanced AI and Emerging Computing Technologies for Next Gen Marine Engineering organized by AMET University, Chennai on 29.9.26
3. Session Chair for International Conferences at Galgotias University on May 14th and 15th 2024
4. Session Chair for IEEE International conference on Advance Computing and Innovative Technologies on 14.5.24 & 15.5.24
5. Invited as a Chief Guest for IETE Student Forum Inauguration on 27.07.2023
6. Guest Lecture on Biometrics the Future of Authentication at New Prince Shri Bhavani College of Engineering and Technology on 27.07.2023
7. Guest Lecture on Interplay of AI and Biometrics- Challenges and Opportunities at Panimalar Engineering College on 20.10.2023

PROFESSIONAL MEMBERSHIPS:

1. Life time Member of Indian Society for Technical Education(**ISTE**) – Membership No : LM92474
2. Life time Member of The Institution of Electronics and Telecommunication Engineers(**IETE**) – Membership No : M-503530.
3. Life time Member of International Association of Computer Science & Information Technology(**IACSIT**) - Membership No: 80346277