

Faculty Profile



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

HIGHLIGHTS:

- Number of Journal Publications: 23
- H-Index: 02
- Project Funding Received: -Nil
- Patents Published: 10
- 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: 266383
- AICTE Faculty ID: 13738526294
- Anna University Supervisor ID: Nil
- LinkedIn: www.linkedin.com/in/sowmiya-manoj-9955b3157

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 13.9 Years
- Industrial Experience: Nil

AREA OF SPECIALIZATION:

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

PATENTS PUBLISHED/GRANTED:

1. **Efficient Prediction of Crime Hotspots using Deep Learning Approaches** Application Number- 202441038099 A , Journal Date: 24/05/2024 -Indian Patent Office
2. **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
3. **Artificial Intelligence Based Wireless Sensor Network For Distributed Agricultural Weather Station** Application Number- 202341037769 Journal Date: 30/06/2023 -Indian Patent Office
4. **Affordable Signal Detection For Healthcare Applications** Application Number- 202341054895 CBR No-36780 Date :29.09.2023
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.

PAPER PUBLICATIONS:

1. 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)
2. 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
3. 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
4. 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
5. 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

6. 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, 2024, pp. 722-726, doi: 10.1109/ICSCSA64454.2024.00123.
7. 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, 2024, pp. 272-277, doi: 10.1109/ICSCSA64454.2024.00049.
8. 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 2022 <https://doi.org/10.1063/5.0247138>
9. 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, 2024, pp. 1-5, doi: 10.1109/ICoICI62503.2024.10696295.
10. 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
11. 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
12. 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.
13. 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.
14. 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.
15. 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.
16. 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
17. 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.
18. 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

19. 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
20. 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
21. 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
22. 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
23. 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

COURSES CERTIFIED:

1. NPTEL online course -Analog Circuits,
2. NPTEL online course -Principles of Communication Systems-I
3. NPTEL online course –Introduction To IOT
4. 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)
5. Completed Introduction to R course and Python for Data Science from Data camp, ATAL Academy and EICT Academy
6. Completed Implementation of OBE and NEP 2020 course conducted by NITTR from 19.12.2022 to 23.12.2022

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) Kfrom 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 (1999-2000)
6. Received an award as UNIVERSITY THIRD RANK HOLDER for ME (Applied Electronics)

SPECIAL SESSIONS DELIVERED:

1. Session Chair for International Conferences at Galgotias University on May 14th and 15th 2024
2. Session Chair for IEEE International conference on Advance Computing and Innovative Technologies on 14.5.24 & 15.5.24
3. Invited as an Chief Guest for IETE Student Forum Inauguration on 27.07.2023
4. Guest Lecture on Biometrics the Future of Authentication at New Prince Shri Bhavani College of Engineering and Technology on 27.07.2023
5. Guest Lecture on Interplay of AI and Biometrics- Challenges and Opportunities at Panimalar Engineering College on 20.10.2023

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

- 1 Paper **Efficient Prediction Of Crime Hotspots Using Deep Learning Approaches With Improved Accuracy** in IEEE Sponsored International conference on Science, Technology, Engineering and Mathematics (ICONSTEM 2024) at Jeppiaar Engineering College 4th and 5th April 2024.
- 2 Paper **Palmprint Recognition using AES Algorithm with Machine Learning** in RAISE 2023 during 20-22 December organized by the School of Mechanical Engineering,Vellote Institute of Technology,Vellore.
- 3 Paper **Arduino UNO based Voice Output Meter for Visually Impaired Persons** in RAISE 2023 during 20-22 December organized by the School of Mechanical Engineering,Vellote Institute of Technology,Vellore
- 4 Paper **Early Prediction of Sensor Fault in Safety Critical System** in RAISE 2023 during 20-22 December organized by the School of Mechanical Engineering,Vellote Institute of Technology,Vellore
- 5 Paper **A Novel Strategy to segment the retinal layers using convolutional neural networks** presented at 4th International conference on Electronics and Sustainable Communication systems (ICESC-2023) at Hindustan Institute of Technology,Coimbatore from 6-8 July 2023.
- 6 Paper **Wind Energy into Power using VAWT** presented in the 3rd International Conference on Pervasive Computing and social Networking(ICPCSN-2023) at Narasu's Sarathy Institute of Technology from 19th to 20th June 2023.
- 7 Paper titled Implementation of **Implementation of Vertical Axis wind turbine on highways of India** in the International Conference on "Emerging Technologies in Power Electronics for Green and Renewable Energy Systems" (ICETPRS-2023) in association with IEEE student chapter on 04.05.2023 - 05.05.2023 organized by School of Electrical Engineering, Bharath Institute of Higher Education & Research.
- 8 Paper **Design and Analysis of Heart Attack Prediction System Using ML** presented in the IEEE International Conference on Integrated Circuits and Communication Systems (ICICACS-2023) at S.L.N College of Engineering, Raichur from 24th Feb to 25th Feb 2023
- 9 Paper **Anomaly detection at wireless body Area network coordinates for Telemedicine** presented in the Second International Conference on Innovations in Electronics and Communication Systems (ICIECS-2022) at R.M.K College of Engineering and Technology from 24th Nov to 26th Nov 2022.
- 10 Paper titled Implementation of **Vertical Axis wind turbine on highways of India Awarded 1st prize** in the International Conference on "A Next-Gen Semi - Con Global India Manufacturing (NGSCGIMC) – 2022 in association with Hi-Tech India Semiconductor Association (HTISCA) - 2022" on 12.12.2022 - 13.12.2022 organized by School of Electrical Engineering, Bharath Institute of Higher Education & Research.
- 11 Paper **Identification System Based On Features Using Naive Bayes Techniques** Presented In The Three Days International Conference On "Sustainable Materials And Technologies For Bio And Energy Applications, (Smtbea-2021)" During 19-21, May 2021 Organized By The Department Of Electronics & Communication Engineering, SSN College Of Engineering, Kalavakkam, Chennai,603110,India.
- 12 Paper **Biometric Palmprint Identification And Classification Using Recurrent Neural Networks** Presented In The Three Days International Conference On "Sustainable Materials And Technologies For Bio And Energy Applications, (Smtbea-2021)" During 19-21, May 2021 Organized By The Department Of Electronics & Communication Engineering, SSN College Of Engineering, Kalavakkam, Chennai,603110,India.
- 13 Paper **Design And Implementation Of Biometric Palm Print Identification Using Convolutional Neural Network** presented in the AICTE Sponsored virtual international conference on Impact of IOT and Machine Learning in Mechanical and Computer Science Engineering of Arasu Engineering

College ,Kumbakonam on 03.08.2021 & 04.08.2021.

- 14 Paper **Palmprint Identification System Using KNN And SVM Classifier** presented at International Conference on Recent Advancements in Biomedical Engineering (ICRABE'21) held on 17th-19th March 2021.
- 15 Paper titled "**Identification & Analysis Of Palm Print In Biometric Authentication System Using K-Nn Algorithm**" in the National E- Conference on HARDWARE SECURITY-NCHS'20 Organized by the Department of Electronics and Communication Engineering on 25/06/2020 at Aarupadai Veedu Institute of Technology, Paiyanoor, Chennai.
- 16 Paper titled "**Smart Home Automation And Security System Using Arduino** " in the National E- Conference on HARDWARE SECURITY-NCHS'20 Organized by the Department of Electronics and Communication Engineering on 25/06/2020 at Aarupadai Veedu Institute of Technology, Paiyanoor, Chennai.
- 17 Paper **Multi Resolution Image Fusion Approach For Image Enhancement** presented at International conference on Advanced Scientific innovation in science,Engineering and technology (ICASISSET-2018) organized by Bharath Institute of Higher Education And research during 11th to 13th April 2018
- 18 Presented a paper titled "**Power Theft Monitoring System Using Gsm**" at National Conference, NCRTIC-18 at BIHER, March, 2018
- 19 Paper presented "**Palmprint identification of wavelet method**" on National conference on networking, communication systems & signal processing at Karpaga Vinayaga college of Engineering on 13th March 2013
- 20 Paper presented **Biometric Authentication of Palmprint identification** on National conference on Expanding Horizon in computer, information technology by IETE at Loyola ICAM college of Engineering & Technology on 21st April 2012.
- 21 Paper presented on **Routing Protocol Using Ant Colony Optimization** conducted as part of phase IV activities of ARBITRIUM at Asan Memorial Engineering college on 6th March 2007 and Won FIRST Prize.

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