

Faculty Profile



Dr. C. Sheeba Joice, M.E., M.B.A., Ph.D

Dean - Saveetha Teaching Learning Centre,
Professor and Deputy Head, Department of Electronics and Communication Engineering

HIGHLIGHTS

- Total Publications: 39
 - Scopus Indexed: 26
 - SCI: 6
 - Others: 13
- H-Index: 5
- SNIP: 17.093
- Project Funding Received: 2
- Patents Published: 5
- Patents Granted: 1

PROFESSIONAL LINKS

- Scopus ID: 55037428800
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=55037428800>
- Google Scholar ID: Dr. Sheeba Joice. C
- Anna University Faculty ID: 275228
- Orcid ID: 0000-0002-2728-378X
- AICTE Faculty ID: 1488087931
- Anna University Supervisor ID: 2540099
- LinkedIn: <https://www.linkedin.com/in/sheeba-joyce-95098989/>

PROFESSIONAL BACKGROUND

- Teaching Experience till date: 26 years 5 Months

INTERNATIONAL EXPOSURE

- Visited Canada and Bangkok

AREA OF SPECIALIZATION

- Embedded Systems, Image Processing

Ph.D AWARDED WITH DETAILS

S:No	Name of Scholar	Title of Thesis	Year of Completion	Full Time/Part Time
1	Ms. Vaishnavi T	Multi-Lane Management Control Strategies for Connected Autonomous Vehicles Using SA-EFO Algorithm	2023	Full Time (Anna University)
2	Mr. SivaKannan S	Certain Investigation on Wavelet based Image Watermarking Techniques	2018	Part Time (Annamalai University)

Ph.D GUIDANCE

- Full Time Scholars: 2
- Part Time Scholars: 4

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY

- Received fund of Rs.5,29,000/- from AICTE, to conduct FDP on “Creative Pedagogy and its significance in Engineering Education.”
- Received fund of Rs.97,500/- from IIT Kharagpur, under the National Mission on Education through ICT (MHRD, govt. of India) for Two Weeks ISTE main workshop on “Analog Electronics.”

PATENTS PUBLISHED/GRANTED

- Published a patent on “Prevention of Sink Hole Attack using Machine Learning”, 2024.
- Published a patent on “Deep Learning based Haze Removal for Autonomous Vehicles Perception Systems”, 2024.
- Published a patent on “Hybrid Energy Storage Systems for Electric Vehicles”, 2023.
- Published a design patent on “IoT based Portable Chamber for Smart Agriculture”, 2023.
- Granted a design patent on “IoT based Embedded System for Vegetable Cultivation”, 2023.

PUBLICATIONS

SCOPUS INDEXED

- “A Comprehensive Review of Image Encryption Algorithms: Techniques and Applications,” 2024 5th International Conference on Data Intelligence and Cognitive Informatics (ICDICI), Tirunelveli, India, 2024, pp. 920-926, doi: 10.1109/ICDICI62993.2024.10810878.
- “A Comprehensive Review of Various SRAM Using Power Gating Technique,” 2024 5th

International Conference on Data Intelligence and Cognitive Informatics (ICDICI), Tirunelveli, India, 2024, pp. 356-361, doi: 10.1109/ICDICI62993.2024.10810787.

- “Bio-inspired optimizer with deep learning model for energy management system in electric vehicles”, Sustainable Computing: Informatics and Systems, Volume 45, 2025, 101082, ISSN 2210-5379, <https://doi.org/10.1016/j.suscom.2025.101082>. (SCI)
- “Weed Classification and Crop Health Monitoring in Microclimatic Conditions Using Thermal Image Analysis and Deep Learning Algorithms”. J Plant Growth Regul (2024). <https://doi.org/10.1007/s00344-024-11542-1>. (SCI)
- “Energy management of hybrid energy storage system in electric vehicle based on hybrid SCSO-RERNN approach”, Journal of Energy Storage, Volume 78, 2024, 109733, ISSN 2352-152X, <https://doi.org/10.1016/j.est.2023.109733>. (SCI)
- “Design and modelling of a neural network-based energy management system for solar PV, fuel cell, battery and ultracapacitor-based hybrid electric vehicle”. Electr Eng 106, 689–709 (2024). <https://doi.org/10.1007/s00202-023-02015-x>. (SCI)
- “Deep Learning-Based Facial Expression Recognition System for Age, Gender, and Emotions”. In: Jha, P.K., Jamwal, P., Tripathi, B., Garg, D., Sharma, H. (eds) Proceedings of the Second Congress on Control, Robotics, and Mechatronics. CRM 2024 2024. Smart Innovation, Systems and Technologies, vol 409. Springer, Singapore. https://doi.org/10.1007/978-981-97-7094-6_8.
- “Feature Selection and Classification to Detect Fetal Abnormalities”. In: Kumar, R., Verma, A.K., Verma, O.P., Wadehra, T. (eds) Soft Computing: Theories and Applications. SoCTA 2023. Lecture Notes in Networks and Systems, vol 971. Springer, Singapore. https://doi.org/10.1007/978-981-97-2089-7_22.
- “Modeling of High-Efficiency Battery Charger for Light EVs Using MATLAB/SIMULINK”. In: Pant, M., Deep, K., Nagar, A. (eds) Proceedings of the 12th International Conference on Soft Computing for Problem Solving. SocProS 2023. Lecture Notes in Networks and Systems, vol 995. Springer, Singapore. https://doi.org/10.1007/978-981-97-3292-0_56.
- “Surveying Strategies: Detecting Sinkhole Attacks in IoT Networks”. In: Sharma, H., Shrivastava, V., Tripathi, A.K., Wang, L. (eds) Communication and Intelligent Systems. ICCIS 2023. Lecture Notes in Networks and Systems, vol 969. Springer, Singapore. https://doi.org/10.1007/978-981-97-2082-8_7.
- Unveiling Clarity: A Survey on Haze Removal Techniques Using Deep Learning Approaches. In: Sharma, H., Shrivastava, V., Tripathi, A.K., Wang, L. (eds) Communication and Intelligent Systems. ICCIS 2023. Lecture Notes in Networks and Systems, vol 969. Springer, Singapore. https://doi.org/10.1007/978-981-97-2082-8_6.
- “IoT-Enabled RO Wastewater Management for Sustainable Development,” 2024 International Conference on Advances in Data Engineering and Intelligent Computing Systems (ADICS), Chennai, India, 2024, pp. 1-6, doi: 10.1109/ADICS58448.2024.10533633.
- “FPGA Trojan Attack Impacts on Architecture Performance: A Systematic Approach Revealed,” 2023 8th International Conference on Communication and Electronics Systems (ICCES), Coimbatore, India, 2023, pp. 128-132, doi: 10.1109/ICCES57224.2023.10192867.
- “An Autonomous Driving System for Image based Lane Segmentation,” 2023 Fifth International Conference on Electrical, Computer and Communication Technologies

- (ICECCT), Erode, India, 2023, pp. 1-5, doi: 10.1109/ICECCT56650.2023.10179831.
- “Obstacle Detection and Safe Navigation in Unexpected Situations of Intelligent Vehicle,” 2023 International Conference on Innovative Data Communication Technologies and Application (ICIDCA), Uttarakhand, India, 2023, pp. 620-625, doi: 10.1109/ICIDCA56705.2023.10100210.
 - “Performance Analysis of Conventional and Innovative Teaching Learning Methodologies in Engineering”, Journal of Engineering Education Transformations, 2022, 36(Special Issue 1), pp. 110–114, DOI: 10.16920/jeet/2022/v36is1/22183.
 - “A novel self adaptive-electric fish optimization-based multi-lane changing and merging control strategy on connected and autonomous vehicle”. Wireless Netw 28, 3077–3099 (2022). <https://doi.org/10.1007/s11276-022-03022-9>. (SCI)
 - “Secured IoT based Smart Vehicle Tracking System,” 2022 Sixth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Dharan, Nepal, 2022, pp. 411-415, doi: 10.1109/I-SMAC55078.2022.9987279.
 - “Vehicle-to-Vehicle (V2V) Communication using Routing Protocols: A Review,” 2019 International Conference on Smart Structures and Systems (ICSSS), Chennai, India, 2019, pp. 1-10, doi: 10.1109/ICSSS.2019.8882828.
 - “Implementation of Z-Ternary Content-Addressable Memory Using FPGA”. In: Dash, S., Bhaskar, M., Panigrahi, B., Das, S. (eds) Artificial Intelligence and Evolutionary Computations in Engineering Systems. Advances in Intelligent Systems and Computing, vol 394. Springer, New Delhi. https://doi.org/10.1007/978-81-322-2656-7_77.
 - “Fuzzy Control Strategy for The Speed Control Of BLDC Motor With Load Variations”, International Journal of Applied Engineering Research, ISSN 0973-4562, Volume 10, Number 2 (2015) pp. 2689-2703.
 - "Comparison of LSB based and HS based reversible data hiding techniques," 2014 2nd International Conference on Devices, Circuits and Systems (ICDCS), Coimbatore, India, 2014, pp. 1-4, doi: 10.1109/ICDCSyst.2014.6926152.
 - “DWT Based Reversible Data Hiding With Enhanced Embedding Capacity and Security”, International Journal of Applied Engineering Research, ISSN 0973-4562, Volume 9, Number 24 (2014) pp. 30853-30863.
 - "Digital Control Strategy for Four Quadrant Operation of Three Phase BLDC Motor With Load Variations," in IEEE Transactions on Industrial Informatics, vol. 9, no. 2, pp. 974-982, May 2013, doi: 10.1109/TII.2012.2221721. (SCI)
 - “Digital Control of Four Quadrant Operation of BLDC Motor using dsPIC30F4011” in European Journal of Scientific Research published in, Vol. 71, Issue I, pp.117-126, February 2012.
 - “Practical implementation of four quadrant operation of three phase Brushless DC motor using dsPIC,” 2011 International Conference on Recent Advancements In Electrical, Electronics And Control Engineering, Sivakasi, India, 2011, pp. 91-94, doi: 10.1109/ICONRAEeCE.2011.6129762.

OTHERS:

- “Evaluating learning outcomes by comparing conventional and activity-based learning methods in control system engineering”, 1st Edition, Pedagogical Revelations and Emerging Trends, edited by C. Sheeba Joice, M. Selvi, Copyright 2025.
- “Comparative analysis of facial expression recognition system for age, gender, and

emotions”, 1st Edition, Pedagogical Revelations and Emerging Trends, Edited By C. Sheeba Joice, M. Selvi, Copyright 2025.

- “Evaluating the impact of learning analytics on assessments within a learning management system: A case study”, 1st Edition, Pedagogical Revelations and Emerging Trends, Edited By C. Sheeba Joice, M. Selvi, Copyright 2025.
- “Smart Door Design Based on Face Detection and Recognition Using CNN and Viola Jones Algorithm”, Disruptive Technologies for Sustainable Development, © 2024 Taylor & Francis Group, London, ISBN 978-1-032-55000-8, DOI: 10.1201/9781003428473-15.
- “A Review on Control Techniques For Brushless DC (BLDC) Motors”, International Journal of Application or Innovation in Engineering & Management (IJAIEEM), Volume 9, Issue 4, April 2020, ISSN 2319 - 4847.
- “Review on Range of Controller Area Network (CAN) Protocol In Different Automobile Appliances”, International Journal of Pure and Applied Mathematics, Volume 120, No. 5, 2018, 1099-1109.
- “3D Feature Descriptors and Image Reconstruction Techniques: A Review”, International Journal of Pure and Applied Mathematics, Volumes 120 No. 5 2018, 1117-1125, ISSN: 1314-3395 (on-line version).
- “An Efficient ICA and DWT Combined Approach for Medical Image Watermarking Technique”, World Applied Sciences Journal 34 (9): 1197-1203, 2016 ISSN 1818-4952 © IDOSI Publications, 2016 DOI: 10.5829/idosi.wasj.2016.34.9.15713.
- “An Optimized Image and Data Embedding in Color QR Code”, Middle-East Journal of Scientific Research, ISSN 1990-9233, Volume 23, Number 7 (2015), Sensing, Signal Processing and Security, pp.66-72, 2015. DOI: 10.5829/idosi.mejsr.2015.23.ssps.15.
- “Speech Recognition Using Discrete Hidden Markov Model”, Middle-East Journal of Scientific Research, ISSN 1990-9233, Volume 23, Number 7 (2015), pp. 1506-1511. DOI: 10.5829/idosi.mejsr.2015.23.07.22353.
- “Simulation of speed control of Brushless DC Motor, with fuzzy logic controller”, International Journal of Electrical, Electronics and Data Communication, Volume 2, Issue 4, pp.24 -29, April 2014. ISSN: 2320 – 2084.
- “On Shoe Wearable Sensors for Detecting Foot Neuropathy”, International Journal of Electrical, Electronics and Data Communication, Volume-2, Issue-5, May-2014, ISSN: 2320-2084.
- “FPGA Based Improved Performance in Video Transmission using Space Time Scheduling”, International Journal of Advanced Research in Electronics and Communication Engineering, Volume 2, Issue 2, pp.208 – 210, February 2013.

INTERNATIONAL AND NATIONAL CONFERENCE PROCEEDINGS:

- “An optimized image and data embedding in QR code”, Proceedings of 2nd International Conference on Sensing, Signal Processing and Security, St.Peter’s College of Engineering and Technology, May 2015.
- “An optimized data imbedding in QR code”, National Conference on Technological Advancement in Networking and Communication, Vellammal Engineering College, May 2015.
- “Simulation of speed control of Brushless DC Motor, with Fuzzy Logic controller”, at International Academic Conference on Electrical, Electronics and Computer Engineering,

pp. 27- 32, February 2014.

- “Onshoe wearable sensors for detecting foot Neuropathy”, at International Conference on Electrical and Electronics, Computer Science and Mechanical Engineering, held at Chennai, March 2014.
- “Fuzzy control strategy for the speed control of BLDC motor using embedded controller”, International conference on Innovative Research in Engineering & Technology, May 2014.
- “Comparison of LSB based and HS based Reversible Data Hiding,” 2nd International Conference on Devices, circuits and systems, pp.269-273, March 2014.
- “DWT based reversible data hiding with improved embedding capacity and security”, International conference on Innovative Research in Engineering and Technology, May 2014.
- “Comparison of LSB, DCT and HS based Reversible Data Hiding”, National Conference on Networking and Communication, pp.6-12, March 2014.
- “Foot Neuropathy Analyser and Blood Flow Simulator for Parkinson’s disease Patients”, National conference on Networking and Communication, March 2014.
- “Edge Adaptive Technique in image steganography through improved pixel value differencing method”, National Conference on Intelligent Techniques in control, optimization and signal processing during March 2012 at Kalasalingam University.
- “High Embedding capacity in image Steganography through improved discrete Wavelet domain” in the International Conference on Emerging Trends during April 2012 at Magna college of Engineering.

COURSES CERTIFIED:

- Completed course on Leadership and Emotional Intelligence.
- Completed IUCEE International Engineering Educator Certification Program (IIEECP), with distinction in the year 2018.
- Completed Microsoft Power BI Data Analyst course, certified by AICTE & UGC.

AWARDS

- Awarded IUCEE Individual Honorary Member, 2025.
- Awarded Teaching Learning Centers Award by IUCEE, 2023 & 2025.
- Awarded Certificate of Award for Excellence in Academic Leadership by IUCEE, 2021.
- Awarded Best Staff Award by Saveetha Engineering College for the academic years 2006-2007, and 2012-2013.

ACHIEVEMENTS

- Organized – International Conference on Educating Post Millennials Saveetha Engineering College during May 2022 and May 2024.
- Organized – DRESTEIN 2014, DRESTEIN 2015, DRESTEIN’17 (February 2017), DRESTEIN’17 – V2.0 (September 2017), and DRESTEIN’18 -DReam, dESign compete WIN – Inter Collegiate Technical Festival, a three day event, of Saveetha Engineering College, as an institution level coordinator.

SPECIAL SESSIONS DELIVERED

- Session Chair for 3rd International Conference on Recent Advances in Electrical, Electronics, Ubiquitous Communication and Computational Intelligence (RAEEUCCI- 2024) at SRM Kattankulathur on 17th April, 2024.
- Resource person for AICTE sponsored Designing concepts using design thinking at Sathyabama University, 31st October 2023.
- Been the Resource person and the Coordinator for the FDP titled Digital Design - Mission Impossible.
- Resource person for the Webinar on Finland Education System at Saveetha Engineering College, June 2020.
- Resource person for the Online Counseling Guidance (LIVE), organized by The Hindu, on Tamil Nadu Engineering Admissions 2020.
- Resource person for IUCEE Online Course held during July to September 2020.
- Resource person for a Course on Online Teaching, organized by IUCEE. August 2020
- Resource person for FDP on Blooms Taxonomy, SRM University. (Online) June 2020.
- Resource Person for Decoding of Online Examinations, Skill slate Academy. May 2020.
- Examiner for Capstone presentations of IUCEE. April 2020.
- Resource Person for Anna University approved Faculty Development Programme on Microprocessors and Microcontrollers, at St.Joseph's College of Engineering on 02.06.17.
- Resource Person – FDP on LIC – 16.12.16,17.12.16 and 19.12.16. at SEC
- Resource Person for Anna University approved Faculty Development Programme on EE6602 –Embedded Systems held on 12th January 2016, at Chandy Engineering College, Tuticorin.
- Resource Person for Anna University approved Faculty Development Programme on EE6602 –Embedded Systems held from Dec 22nd to 24th 2015, at Rajalakshmi Institute of Technology.
- Delivered guest lecture on PIC Microcontrollers at IETE Chennai Centre on 29.09.2015.
- Resource Person for Anna University approved Faculty Development Training Programme held from 04.05.2015 -11.05.2015 at Jaya Engineering College, EC6504 – Microprocessors and Microcontrollers.
- Judge for Paper Presentation at National conference at Magna College of Engineering, Chennai.
- Resource Person for AICTE sponsored FDP on Embedded Systems at Rajalakshmi Institute of Technology held on 8th May 2013, Chennai.

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

- FDP on Microsoft Power BI Data Analyst, organized by SRM, Vadapalani, chennai , 2024.
- Professional Development Programme on Designing and Developing Educational

Media by NITTTR, Chennai, 2024.

- IUCEE Leadership Enclave on Consortium_IUCEE by IUCEE-Bangalore, 2024.
- Industry Powered FDP on Emerging Smart Technologies, organized by L&T EduTech, 2022
- International Conference on Transformations in Engineering Education conference for the past five years
- Leadership summit of IUCEE and GEDC (Global Engineering Deans Council) meet, during January 2020 and July 2020
- AICTE Sponsored FDP on Universal Human Values, 2020
- FDP on Assessment at IITM, 2019
- FDP on Effective Teaching, IITM, 2018
- Attended STTP on CMOS, Mixed and RF VLSI Design organized by IIT Kharagpur, during February 2017.
- Two-week ISTE Short Term Training Programme (STTP) on Technical Communication, conducted by IIT Bombay, January 2016.
- Leadership Training Programme for Academic Heads – Organized by Wipro Mission 10X – Bangalore – January 20th to January 23rd 2015.
- Special Lecture on Location Based Services and Sensors for Smart Phone Applications, conducted by IETE Chennai Centre on 18.10.2014.
- Workshop on “Embedded System Application using ARM”, VIT Chennai, 20th and 21st of February 2014.
- Workshop on “R&D Project Proposals – Awareness, Needs and Benefits” at CTDT, Anna University, Chennai, on 26th February 2014.
- Workshop on “MEMS Modelling Using Intellisuite”, at Saveetha Engineering College, during 2012.
- Workshop on “Introduction to Research Methodologies”, conducted by IIT Mumbai, at Saveetha Engineering College during June 2012.
- “National Workshop on Hardware Implementation of Power Electronics and Drives”, at SRM University from 15th to 16th September 2011.
- “Faculty Development Programme on FPGA and ssVLSI Design” at Karunya Institute of Technology, Coimbatore during 11th and 12th September 2009.
- “Workshop on Artificial Neural Networks” at Sri Muthukumaran Institute of Technology, during 5th and 6th February 2004.
- “Workshop on Embedded System Technologies” at Sri Muthukumaran Institute of Technology, during 24th and 25th January 2003.

PROFESSIONAL MEMBERSHIPS

- Fellow IETE (F235354)
- Former Honorary Secretary IETE - Chennai Centre – (2016 – 2018)
- Executive Committee Member IETE - Chennai Centre – (2014 – 2016)
- Life Member ISTE (LM 91310)

PROFESSIONAL DEVELOPMENT ACTIVITIES

- Responsible for the Academics of SEC

- Played key role in framing Autonomous Regulations of SEC.
- Significant role in establishment of Saveetha Teaching Learning Centre.
- SPOC of IUCEE
- Initiated Coursera on Campus
- Academic Council Member – SEC
- Provided leadership in framing curriculum for FCBCS (Flexible Choice Based Credit System)
- In collaboration with IUCEE, TLC-IITM and NITTTR have organized various training programs for our faculty in Teaching Learning Process, Outcome Based Education Activity Based learning, Collaborative Learning and Assessment.
- Was instrumental in implementing MILA (Multiple Interactive Learning Algorithm)- a new teaching methodology that helps learners have better understanding of the concepts taught.
- Member of Anna University Syllabus (PG) – Sub committee
- “International Journal of Biomedical Engineering and Technology (IJBET) – Reviewer of Inderscience
- IEEE Transactions on Industrial Informatics - Reviewer
- Reviewer in National Level Technical Paper Contest, organized by IETE Chennai Centre.
- Question Paper Setter – Doctoral Programme – VIT University.
- Journal of Engineering Education and Transformation (JEET) - Reviewer
- ICTIEE 2021, ICTIEE 2022 and ICTIEE 2023 (International Conference on Transformations in Engineering Education) conference - Reviewer
- National Level Technical Paper Contest, organized by IETE Chennai Centre - Reviewer
- Book chapter - Segmentation of Optic Disc from Fundus Image based on Morphology and SVM Classifier: Optic Disc Segmentation - IGI Global eEditorial Discovery
- ICSSS - conference paper - Reviewer

FDP ORGANISED:

- Organized International Conference on Engineering Education, May 2022.
- Organized a webinar titled, ‘Text on Images’, during July 2020.
- Six weeks online FDP on Improving competency and Values towards Intellectual Development. April 2020.
- Two week online FDP on Arts and Skills for Effective Teaching. May 2020.
- 3 days FDP on Activity Based Learning
- IIEECP Certification Programme – 3 batches
- 10 day Workshop for Faculty on “Analog Electronics”, during June 2013, Sponsored by NMEICT – IIT Kharagpur.
- 3 Day FDP on Linear Integrated Circuits, during December 2016, sponsored by IETE, Chennai Centre.

WORKSHOP ORGANISED:

- Organized – Workshop on AI Tools for Engineering Education at Saveetha Engineering College on 05/01/2024.
- 2 day Workshop for Faculty and students on “WORKSHOP ON EMBEDDED ARM CORTEX AND INTEL EDISON”, during September 14th to 15th 2015.

