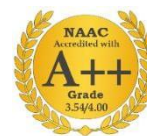





SETHU INSTITUTE OF TECHNOLOGY

(An Autonomous Institution| Accredited with „A++“ Grade by NAAC)

Pulloor, Kariapatti –Taluk. Virudhunagar Dist-626115.



Department of Electronics and Communication Engineering

Name	Dr.J.Rajalakshmi				
Date of Birth	02-06-1991				
Unique ID	1-4336329511				
Educational Qualifications	M.E.,Ph.D.				
Designation	Associate Professor				
Email ID	lakshmiyeyapal@gmail.com				
Alternate Email ID	jrajalakshmi@sethu.ac.in				
Experience	Industry	Teaching	Others	Total	
		10.7		10.7	
Date of Joining the Institution	07-11-2022				
Area of Specialization	Antenna Design,Artificial IntelligenceCyber SecurityMachine LearningComputer Networks.				
Courses taught	Antenna and Wave Propagation. Data Communication Network. Computer Networks &Computer Networks Laboratory. Cyber Security Systems. Cognitive Radio (PG subject). Adaptive Signal Processing (PG subject). Fiber Optic Networks (PG subject) Professional Ethics and Human Values. Circuit Theory. Electronic Devices. Basic Electrical and Instrumentation Engineering.				
Research Focus	Antenna Design,Artificial IntelligenceCyber SecurityMachine LearningComputer Networks.				
Research guidance (Number of Scholars)	UG- 18 PG- 4				
Subject Competency	Antenna and Wave Propagation.Data Communication Network.Computer Networks, Cyber Security Systems.				
No. of papers published	National Journals	International Journals	Conferences		
	2	10	34		
PG Specialization	Electronics and Communication Engineering				
Ph.D. Specialization	Information and Communication Engineering				
Projects Carried out	12				

Patents (Filed & Granted)	7
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	3 Books Published <ul style="list-style-type: none"> ➤ Introduction to Artificial Intelligence Framework for Sports , ISBN : 978 -93-5757-291-0., Scientific International Publishing. ➤ VLSI Design ISBN : 978-93-6010-731-4.,Prime International Publication. ➤ Big Data Analytics, Prime International Publication

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Academic Credentials

Level	Degree	Specialization	University	Year of Completion
UG	B.E	Electronics and Communication Engineering	ANNA UNIVERSITY	2012
PG	M.E	Electronics and Communication Engineering	ANNA UNIVERSITY	2014
Ph.D.	Ph.D	Information and Communication Engineering	ANNA UNIVERSITY	2023

Details of Journal Publication:

- **Rajalakshmi.J**, „Implantable CPW Fed X-Shaped Monopole Antenna For Biomedical Application“ International Journal of System Design and Information Processing , ISSN: 2319-9288,vol. 2, no. 1, pp. 23-26.
- **Rajalakshmi, J**, „Conjugate Gradient Algorithm in PET Brain Images“ BONFRING (Volume 2) July 2014.
- **Rajalakshmi.J** & Siva Ranjani S, „Optimal and energy effective power allocation using multi - scale resource GOA-DC-EM in DAS“, Intelligent Automation & Soft Computing, ISSN: 1079-8587, vol. 34, no. 2, pp.1049-1063,May 2022.(SCI,Scopus).
- Dr. JebaSanthiya, **Rajalakshmi J**, Dr. SivaRanjani S, Dr.Arun Mozhi Selvi „, Detection of Epilepsy through Machine learning Algorithms using Brain Signals“, Neuroquantology, vol. 20, no. 8, pp. 6011-6018,July 2022.(SCI, Scopus).

- **Rajalakshmi J**, Dr.SivaRanjani S , Sugitha G, Prabanand S.C., „Electroencephalogram Data Analysed Through the Lens of Machine Learning to Detect Signs of Epilepsy“– IEEE Explore, DOI: 10.1109/ICIRCA54612.2022.9985641, 29th December 2022.
- Dr.B.Gopi , **Rajalakshmi J**, Sugitha G „A novel design of recta -Tri SIW antenna for UWB Applications“- Microwave Optical Technology Letters ,Wiley , vol. 65, no. 2, pp.663-67, 26th November 2022.
- **Rajalakshmi J**, Dr.SivaRanjani S , Dr. Arun Mozhi Selvi S , Muthuraja S, „Printed MIMO Antenna for C and X band Applications“– IEEE Explore, DOI: 10.1109/ICCCNT56998.2023.10308220, 23rd November 2023.
- **Rajalakshmi J**, K Matrouk, D Purushothaman. „ An efficient heuristic-aided adaptive autoencoder-based dilated DNN with attention mechanism for enhancing the performance of the MIMO system in 5G communication“, Multimedia Systems, vol 30,no.2,pp.116, 2024.
- J. Jaganpradeep, **J. Rajalakshmi**, V. Arun Antony, T. Priya, „Evolutionary Agents With Quantum Based Nano-Electronic Circuit Design For Electronic-Photonic Integrated Circuits“, ICTACT Journal On Microelectronics, vol 10,no 2,pp.1769 - 1775, 2024
- **J. Rajalakshmi**, B. Guruprakash,, T. Siva and Sivaram Murugan, „Deep Learning-Assisted Electromagnetic Simulations For Enhanced Microstrip Circuit Design Using Recurrent Neural Networks“, ICTACT Journal On Microelectronics, vol 10,no 4,pp.1957-1961, 2025.
- **Nagalakshmi ,J. Rajalakshmi**, MRI-Brain Tumor Classification using K-Means Clustering and Enhanced Feature Selection, „Deep Learning-Assisted Electromagnetic Simulations For Enhanced Microstrip Circuit Design Using Recurrent Neural Networks“, ICTACT Journal On Microelectronics, vol 10,no 4,pp.1957-1961, 2025.

Details of Conference attended:

- Attended International Preconference on “New Nuclear Plant Trends” on Energy and Nuclear Plant Innovation at „Indian Institute of Technology (IIT) - Madras“, on 5th February 2011.
- Participated and presented in the International Conference on “Biomedical Systems, Signals and Images” at „Indian Institute of Technology (IIT)-Madras“, on 28th Nov-1st Dec 2012.
- Participated and presented in the International Conference on “Design and Application of Structures, Drives, Communicational and Computing Systems (Dense Dielectric Patch Antenna for Wireless Communication)” at „K.L.N College of Information Technology -Madurai“, on 29th and 30th November 2013.
- Participated and presented in the International Conference on “Systems Engineering and Emerging Systems (Roadsters Sense and Lanes Side Tree Shadow Amputation in Satellite Images)” at „PSG College of Technology - Coimbatore“, on 23rd to 25th Jan 2014.
- Participated and presented in the International Conference on “AVANZARE (Design of Linear Array Patch Antenna for Wireless Communication)” at „Sethu Institute of Technology - Madurai“,

on 28th Jan 2014.

- Participated and presented in the International Conference on “AVANZARE (Efficient MRI Segmentation Using IGC – OAAM Approaches)” at „Sethu Institute of Technology - Madurai“, on 28th March 2014.
- Participated and presented in the International Conference on “Green Engineering (Energy-Optimal Scheduling with Dynamic Channel Acquisition in Wireless Downlinks)” at „Karpagam College of Engineering - Coimbatore“, on 28th October 2015.
- Participated and presented in the International Conference on “Biomedical Systems, Signals and Images(Competent Mri Segmentation Spending Igc-Oaam Tactics)” at „Indian Institute of Technology (IIT)-Madras“, on 28th February 24th-26th 2016.
- Participated and presented in the 3rdInternational Conference on “Computational Intelligence (Unique Evolution in Internet of Things)” at „Sethu Institute of Technology –Kariapatti“ on 5th April 2018.
- Participated and presented in the 2ndInternational Conference on “ICASEM 2K18-Advances in Science, Engineering and Management (IoT and It’s Smart Applications)” at „Sethu Institute of Technology –Kariapatti“ on 6th April 2018.
- Participated and presented in the 1stInternational Conference on “ICIDT-2019 Intelligent Digital Transformation, (Array antennas)” at „Sri Ramakrishna Engineering College –Coimbatore“ on 20thJuly 2019.
- Participated and presented in the “International Conference on Modern Research & Computations in Electrical Technology- ICMRCET 2020 (Design of Asymmetrical Antenna for Wireless Communication)” at „CMR Engineering College–Hyderabad“ on 8thJanuary 2021.
- Participated and presented in the “IEEE International Conference on Inventive Research in Computing Applications- ICIRA 2022 (Electroencephalogram Data Analysed Through the Lens of Machine Learning to Detect Signs of Epilepsy)” at „RVS College of Engineering -Coimbatore“ on 21-23 ,September 2022.
- Participated, presented and received **Best Paper Award** in the “2ndInternational Conference on Nonlinear Applied Analysis & Optimization and NMD 2022 (Improving Antenna Capacity for MIMO IoT using Optimal Deep learning based CNN Classifier Approach)” at „Indian Institute of Technology - Varanasi“ on 19-22 December 2022.
- Participated and presented in the “2nd International Conference on Nonlinear Applied Analysis & Optimization and NMD 2022 (The Enactment of An Ensemble Deep Learning Optimal Method to the Prediction of Short-Term Energy Prices)” at „Indian Institute of Technology - Varanasi“ on 19-22 December 2022.
- Participated and presented in “5th International Conference on Communication and Computational Technologies -ICCCT 2023 (Long Short Term Memory Deep Learning for Categorization of Autism using EEG DATA)”at Rajasthan Institute of Engineering and Technology, Jaipur on 29th January 2023.
- Participated and presented in “International Conference on Emerging Trends in Information and Communication Technologies ETICT – 2K23 (Astute Vehicle Ranking)”at Sethu Institute of Technology, Virudhunagar on 5th -6th April 2023.
- Participated and presented in “International Conference on Emerging Trends in Information and Communication Technologies ETICT – 2K23 (U-Shaped Slot Antenna for Medical Applications)”at Sethu Institute of Technology, Virudhunagar on 5th -6th April 2023.
- Participated and presented in “14th International Conference on Computing, Communication and

Networking Technologies (ICCCNT) (Printed MIMO antenna for C band and X band Applications)” at „Indian Institute of Technology - Delhi“ on 6th – 8th July 2023.

- Participated and presented in “3rd International Conference on Nonlinear Applied Analysis and Optimization (ICNAAO 2023) („An Insightful Radial Basis Function Network-Based Optimized Smart Grid“.)” at „National Institute of Technology – Durgapur on 8th – 10th December 2023.
- Participated and presented in “International Conference on "Materials Processing using Lasers and Surface Engineering" (IMPULSE 2023). ("Laser cutting assembled Metamaterial Twisting slot antenna)” at „Indian Institute of Technology - Madras“ on 15th December 2023.
- Participated and presented in “15th International Conference on Computing, Communication and Networking Technologies (ICCCNT) (Enhanced Health Monitoring System for Internet of Medical Things using Machine Learning)” at „Indian Institute of Technology - Mandi“ on 24th – 27th June 2024.
- Participated and presented in “15th International Conference on Computing, Communication and Networking Technologies (ICCCNT) (An Intelligent Agent Based Optimal Scheduling & Congestion Free Routing Scheme to Enhance QoS of NFV Enabled Hetrogeneous Wireless Sensor Network Framework)” at „Indian Institute of Technology - Mandi“ on 24th – 27th June 2024.
- Participated and presented in “15th International Conference on Computing, Communication and Networking Technologies (ICCCNT) (Block Chain and Deep Learning Based Secure Communication Using SAE-LSTM & salp Swarm Optimizer For Multivariate industrial IoT-Oriented Infrastructure)” at „Indian Institute of Technology - Mandi“ on 24th – 27th June 2024.

Paper Published in National Conferences

- Presented a paper on “General Total Quality Management” in 12th National Conference at „Anna University - Chennai“, on 12th and 13th March 2011.
- Presented and published a paper on “Multi Level Intrusion Detection System and Log Management in Cloud Computing” in the National Conference at „Sri Vidya College of Engineering & Technology - Virudhunagar“, on 30th March 2012.
- Presented and published a paper on “Several Handling and Security in Cloud Computing” in the National Conference at „PSG Polytechnic College - Coimbatore“, on 29th & 30th June 2012.
- Presented and published a paper on “Automatic Fuel Filling Using Smart Cards” in the National Conference at „Tamizhan College of Engineering & Technology -Kanyakumari“, on 12th October 2012.
- Presented and published a paper on “Cloud Computing in Networks” in the National Conference at „Anna University –Madurai“, on 17th & 18th April 2013.
- Presented and published a paper on “Data Transmission of an Optically Steered Modulator Laser Beam by FSO Technique” in the National Conference at „Sri Vidya College Of Engineering Technology – Virudhunagar“, on 20th April 2013.
- Presented and published a paper on “Conjugate Gradient Algorithm in PET Brain Images” in Indian Conference at „IIT-Madras“, on 4th- 6th July 2013.
- Presented and published a paper on “Frequency Control Using FLC” in the National conference at „M.A.M College of Engineering - Trichy“, on 16th–17th August 2013.
- Presented and published a paper on “Stationary Wavelet Transform Based Speckle Noise Removal in Ultrasound Medical Images” in the National Conference at „Mepco Schlenk Engineering College

- Sivakasi “, on 19th March 2014.
- Presented published and received **Best Paper Award** on “Implantable CPW Fed X-Shaped Monopole Antenna For Biomedical Application” in the National Conference at „PSNA College of Engineering and Technology – Dindigul“, on 21st March 2014.
- Presented published and received **Best Presenter Award** a paper on “Photo Acoustic Inquiries into the Thermal Diffusivity Deviations in Optical Phantoms” in National Conference at „Theni Kammavar Sangam College of Engineering and Technology – Theni“, on 29th March 2014.
- Presented ,published and received **Best Presenter Award** a paper on “Roadsters Sense and Path Cross Tree Shadow Deletion in Satellite Images” in National Conference at „Madurai Kamaraj University“, on 17th& 18th December 2015.
- Presented and published a paper on “Security and Log Management in Cloud Computing” at the National Conference on Innovative Technologies in Computer and Communication (ITC – 2018) at „Velammal College of Engineering and Technology - Madurai“ on 4th April 2018.
- Presented ,published paper on “An AI Based Leaf Disease Prediction Using Deep CNN And Automatic Spray of Fertilizer” in National Conference at „Madurai Kamaraj University“, on 27th& 28th November 2023.

Details of Book Chapter and Books Published:

Book Chapter:

- V Dankan Gowda, **J Rajalakshmi**, B Guruprakash, Venkatesan Hariram, KDV Prasad, „Integrating IoT, Blockchain, and Quantum Machine Learning: Advancing Multimodal Data Fusion in Healthcare AI“,Multimodal Data Fusion for Bioinformatics Artificial Intelligence. <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781394269969.ch6> . Vol .pp 103-126.
- Rajalakshmi G, **Rajalakshmi J**, Dr. Solai Raj A, Muthu Raja T., „2C-CNN-LSTM: Two Channel Convolutional Neural Network- Long Short Term Memory Deep Learning For Categorization Of Autism using EEG DATA“– Algorithms for Intelligent Systems, Springer Book Series. https://doi.org/10.1007/978-981-99-3485-0_51 . Vol . 1pp 641–654,1st September 2023.

Books:

- Introduction to Artificial Intelligence Framework for Sports , ISBN : 978 -93-5757-291-0., Scientific International Publishing.
- VLSI Design ISBN : 978-93-6010-731-4.,Prime International Publication.
- Big Data Analytics, Prime International Publication

Details of Patents Filed and Granted:

- Low cost virus free air circulator for PPE, Application Number : 202041055425A, 25/12/2020.
- GPS Antenna socket with PCB terminal (**Granted and certified**). Design No: 342132-001 , 08/04/2021.

- Effective Wearable Sensor Device for predicting the heart rate using machine learning approach, Application Number : 202241044975A, 12/08/2022.
- Design system of visual object tracking system for fusion and coordination using AI , Application Number : 202241044315 ,12/08/2022.
- Miniaturised High Gain Antenna for IOT Devices (**Granted and certified**).Design No: 409954-001 , 09/03/2024
- Antenna Diversity Techniques For Improved Reliability (**Published**), Application Number : 202441084774 A, 15/11/2024.
- Metamaterial Based Antennas For Enhanced Signal Propagation (**Published**) ,Application Number : No.202541010620 A , 14/02/2025.

Expert Lecture Delivered:

- Webinar about Research opportunities in antenna design on 08.12.2021, at Jai Shriram Engineering College.
- Webinar about Scope of Artificial Intelligence & strategies for Exam preparation on 29.12.2021, at Dhanalakshmi Srinivasan Engineering College (Autonomous).
- Webinar about Digital Signal Processing on 06.12.2022, at Holycross Engineering College, Thoothukudi.
- Webinar about Artificial Intelligence on 07.12.2022, at Holycross Engineering College, Thoothukudi.
- Special Guest for the Symposium „POSIA 23“on 18.03.2023 conducted by Holycross Engineering College, Thoothukudi.
- Eminent Speaker for the AICTE Sponsored National Level Conference on “Paradigm Shift in Embedded, Communication Artificial Intelligence & Robotics (PECAR -2K23) at Jai Shriram Engineering College.
- Special Guest for the „National Level Technical Symposium (BARNSTROMZ-2K23)“on 13.10.2023 conducted by Hindustan Institute of Technology, Coimbatore.
- Chief Guest for the Symposium „ELECTROBIOZZ“23“on 16.11.2023 conducted by Holycross Engineering College, Thoothukudi.
- Seminar about Cyber Security on 16.11.2023, at Holycross Engineering College, Thoothukudi.
- Academic audit Expert in Nadar Saraswathi College of Engineering and Technology,Theni ,on 13.03.2024.
- Guest Lecture for seminar on “Artificial Intelligence to Antenna Design :State of the Art

and Challenges” at Solamalai Engineering College on 16.03.2024.

- Conference Guest for ICRAISETM“24 at Solamalai College of Engineering on 26th April 2024.
- Expert Lecture for seminar on “Wearable Technology for Human-Machine Interface:Challenges and Opportunities” at Annasaheb Dange College of Engineering and Technology,Astha on 28.11.2024.
- Guest Lecture for webinar on “ Electromagnetic Interference and Elecromagnetic Compatability” at Kalasalingam Academy of Research and Education on 12.03.2025.

Conference Session Chair:

- Congress on Smart Computing Technologies (CSCT2023) , 02-03 December 2023 at SAU Center for Research and Innovative Learning (SCRIL), South Asian University, India.
- AICTE Sponsored National Level Conference on “Paradigm Shift in Embedded, Communication Artificial Intelligence & Robotics (PECAR -2K23)”.
- 7th International Joint Conference on Advances in Computational Intelligence (IJCACI 2023),14-15 October 2023 at SAU Center for Research and Innovative Learning (SCRIL), South Asian University, India.
- 4th International Conference on Computer Vision and Robotics (CVR 2024) , 25-26 May 2024 at Symbiosis skills & Professional University ,Pune.
- International Conference on Computing and Machine learning (CML 2024),29-30 March 2024 at Sikkim Manipal University,India.
- 2nd International Conference on Power Engineering and Intelligent System (PEIS 2024) ,16-17 March 2024 at National Institute of Technology Uttarakhand.
- 3rd International Conference of UG Students (ICUS 2024) 1st March, Soft Computing Research Society.
- International Conference on Social and Sustainable Innovations in Technology and Engineering –SASI- ITE“24 at Sasi Institute of Technology & Engineering ,Andhra Pradesh.

Technical Program Committee Member (TPC) & Reviewer :

- World Congress on Smart Computing (WCSC 2024) 08-09, June 2024 at Artificial Intelligence Research Center, Babu Banarasi Das University Lucknow, India.
- 4th International Conference on Computer Vision and Robotics (CVR 2024), 25-26 May 2024 at Symbiosis skills & Professional University ,Pune.
- 5th World Conference on Artificial Intelligence :Advances and Applications (WCAIAA 2024), 22-23 February 2024 at Sir Padampat Singhanian University,Udaipur.
- 6th International Conference on Communiation and Computational Technologies (ICCCT

2024) 08-09, January 2024 at Rajasthan Institute of Engineering and Technology, Jaipur.

- 3rd International Conference on Computer Vision and Robotics (CVR2023), Babu Banarasi Das University Lucknow, India.
- IEEE World Conference on Applied Intelligence and Computing (AIC2023), 29-30 July 2023 at Rajkiya Engineering College & Ashoka Institute of Technology & Management, Varanasi.
- 14th International Conference On Computing, Communication And Networking Technologies (ICCCNT 2023) 6-8 July 2023, IIT - Delhi, India.
- 5th International Conference on Communication and Intelligent Systems (ICCIS 2023) , 16-17 December 2023 at Malaviya National Institute of Technology ,Jaipur.
- 4th International Conference on Computational Intelligence (ICCI 2023) , 04-05 November 2023 at ,Sardar Vallabhbhai National Institute of Technology, Surat.
- SWS ISCSS Vienna Art Sessions 2023.
- Congress on Smart Computing Technologies (CSCT2023) ,02-03 December 20023 at SAU Center for Research and Innovative Learning (SCRIL), South Asian University, India.

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