

## Faculty Profile

Full Name : Dr. S. Suja Priyadharsini  
Qualification : M.E., Ph.D.,  
Designation : Assistant Professor (Sr. Grade)  
Department : Electronics and Communication Engineering  
Email : sujapriyadharsini.s@auttv1.ac.in  
Specialization : Applied Electronics  
Research Area : Signal Processing, Image Processing, Medical Electronics, Artificial Intelligence

### PROFESSIONAL EXPERIENCE

| Name of Company / Institutions                     | Designation of Post | Durations              |
|--|---------------------|------------------------|
| Anna University Regional Campus – Tirunelveli      | Assistant Professor | 01-09-2008 -Till date  |
| Noorul Islam College of Engineering, Kumaracoil    | Lecturer            | 04-08-2006 -25-08.2008 |
| Francis Xavier College of Engineering, Tirunelveli | Lecturer            | 17-06-2002 -3107.2004  |
| TamilNadu College of Engineering,Coimbatore        | Lecturer            | 25-06-2001-24-01.2002  |

### ADMINISTRATIVE POSITION HELD

| S.No | Position Held                      | From        | To         |
|------|------------------------------------|-------------|------------|
| 1.   | Head of the Department             | 24.09. 2010 | 05.10.2015 |
| 2.   | Library Officer                    | 09.08.2011  | 02.08.2013 |
| 3.   | Women Empowerment Cell Coordinator | 03.11.2014  | 23.11.2020 |
| 4.   | Dean Office Faculty In-Charge      | 06.01.2020  | 23.11.2020 |
| 5.   | POSH Cell Faculty In-charge        | 24.11.2020  | Till date  |
| 6.   | Core Committee Member              | 21.03.2022  | Till date  |
| 7.   | Head of the Department             | 06.02.2020  | Till date  |

## RESEARCH GUIDANCE:

- i. UG : 3
- ii. PG : 59
- iii. Ph.D : Completed: 2                      Guiding: 4

## Honours & Awards:

- 1) Fund awarded by Tamil Nadu State Council for Science and Technology (TNSCST) under the Student Project Scheme (SPS) for the project titled “ Sensor based evaluation of choorana( siddha Medicine)” guided during 2019.
- 2) Fund awarded by Tamil Nadu State Council for Science and Technology (TNSCST) under the Student Project Scheme (SPS) for the project titled “Sensor Based Evaluation of Soil in Thamirabarani River Belt” guided during 2020.

**Countries Visited :** Nil

## Sponsored Research Projects / Consultancy Services:

| S.No | Title of Project   | Funding Agency  | Amount   | Year | Status    |
|------|--|---|----------|------|-----------|
| 1    | Diagnosis of Neuro-muscular Disorder using Soft Computing Techniques | Centre for Technology Transfer and Development, Anna University, Chennai. | 50,000/- | 2014 | Completed |

## Books Chapters

1. K.R. Anu Bama and S. Suja Priyadharsini, “Groundnut leaves and their disease, deficiency, and toxicity classification using a machine learning approach” Cognitive Systems and Signal Processing in Image Processing, Elsevier, pg.253-274, 2022.
2. A. Mohideen Pathumuthusabana, S.Suja Priyadharsini, “ An Artificial Intelligence based Evaluation of Soil Fertility” Handbook of Green Engineering Technologies for sustainable Smart Cities, CRC Press, pg.255-273, 2021
3. P. Mahalakshmi, S.Suja Priyadharsini, “Analysis and Interpretation of Uterine Contraction Signals using Artificial Intelligence” Handbook Of Artificial Intelligence in Biomedical Engineering, CRC Press , pg 353-367, 2021
4. S.Ramalekshmi, S.Suja Priyadharsini, "An IoT-Based Earthquake Warning System For Smart Cities", Handbook of Research on Implementation and Deployment of IoT Projects in Smart Cities, IGI Global, pg.208 – 227, 2019

## Publications:

- 1) Karthikeyan, V., **Suja Priyadharsini, S**, “Adaptive boosted random forest-support vector machine based classification scheme for speaker identification”. *Applied Soft Computing*, 109826, 2022, DOI: <https://doi.org/10.1016/j.asoc.2022.109826>.
- 2) Karthikeyan, V., **Suja Priyadharsini S**, “ Modified layer deep convolution neural network for text-independent speaker recognition”, *Journal of Experimental & Theoretical Artificial Intelligence*, 2022, DOI: 10.1080/0952813X.2022.2092560
- 3) V. Karthikeyan , **S. Suja Priyadharsini** , K. Balamurugan , Manickam Ramasamy, 2022, “Speaker identification using hybrid neural network support vector machine classifier” *International Journal of Speech Technology*, <https://doi.org/10.1007/s10772-021-09902-3>.
- 4) Karthikeyan, V., **Suja Priyadharsini, S**. “Hybrid machine learning classification scheme for speaker identification”. *Journal of forensic sciences*. Vol . 67, no. 3, pp. 1033-1048, 2022.
- 5) J. Rejula Florence, **S. Suja Priyadharsini**, G. Subash Chandran “Sensor Based Classification and Evaluation Methods using Machine Learning Algorithm for the Evaluation of Indian Traditional Medicine (Siddha)” *Journal Of Scientific Research*, 14 (1), 189-203, 2022
- 6) Sunderlin Shibu D, **Suja Priyadharsini S** . , “Multimodal medical image fusion using L0 gradient smoothing with sparse representation”. *Int J Imaging Syst Technol*. Wiley, 2021; 1–18. ISSN:1098-1098, Impact factor:2.000 •
- 7) D. Sunderlin Shibu, **S. Suja Priyadharsini**, “Multi scale decomposition based medical image fusion using convolutional neural network and sparse representation”, *Biomedical Signal Processing and Control*, Elsevier, Volume 69, 2021, 102789,ISSN:1746- 8094, ( Impact factor:3.880)
- 8) Thanammal Indu, V., **Suja Priyadharsini, S.**, Crossover-based wind-driven optimized convolutional neural network model for tomato leaf disease classification. *Journal of Plant Disease and Protection* . 129, Issue.3, 559–578, 2022.
- 9) Karthikeyan, V., **Suja Priyadharsini, S**. “A strong hybrid AdaBoost classification algorithm for speaker recognition” , *Sadhana*, Vol. 46, Issue no.3, pp. 1- 19, 2021.
- 10) Angeline M, **Suja Priyadharsini S**, “Hybrid compression of biomedical ECG and EEG signalsbased on differential clustering and encoding techniques” *International Journal of Imaging Systems and Technology*. pp: 1–10, 2020.
- 11) Gnana Subha, G & **Suja Priyadharsini, S**, “An Efficient Algorithm Based on Combined Encoding Techniques for Compression of ECG Data from Multiple Leads” *Wireless Personal Communications*, Springer, Vol.108, No.4, pp,2137–2147, 2019,
- 12) H.Radhakrishnan, **S.Suja Priyadharsini**, “Sensor Based Detection of Toxic Gases in Industrial Application” *Journal of Applied Science and Computations*, Vol. VI, Issue VI, pp.1458- 1472, June 2019.

- 13) J.Suganthi Jemila, **S.Suja Priyadharsini**, “A Sensor-Based Forage Monitoring of Grazing Cattle in Dairy Farming” International Journal on Smart Sensing and Intelligent Systems. Vol. 11 , Issue. 1,pp.1-9. ISSN (Online) 1178-5608, DOI: 10.21307/ijssis-2018-014, May 2018.
- 14) **S. Suja Priyadharsini**, N Aiswarya, “Bearing Fault Analysis using Signal Processing Techniques” Journal of Applied Science and Computations, pp.826-833, Volume VI, Issue I, 2019.
- 15) **S. Suja Priyadharsini** & S. Edward Rajan, “Performance analysis of swarm intelligence algorithms in removal of ECG artefact from tainted EEG signal” Automatika, pp. 408-415, Vol. 59, NOS. 3–4, 2018.
- 16) N.Aiswarya, **S.Suja Priyadharsini** and K.S.Moni “An efficient approach for the diagnosis of faults in turbo pump of liquid rocket engine by employing FFT and time-domain features”, Australian Journal of Mechanical Engineering, pp.163-172, Vol. 16, No.3, 2018.
- 17) **Suja Priyadharsini**, S, Edward Rajan, S and Femlin Sheniha, S 2015 “A novel approach for the elimination of artefacts from EEG signals employing an improved artificial immune system algorithm” Journal of Experimental & Theoretical Artificial Intelligence, (ISSN:0952-813X), Taylor & Francis, Vol 28, Issue 1-2, pp. 239-259, March 2016.
- 18) Bhagavatheeswari, **Suja Priyadharsini**, “Discreteness Of Brainwaves Estimating Based On Functional Connectivity for Improving EEG Based Biometric System” International Journal Of Innovative Research In Science, Engineering And Technology,pp. 2349 – 9303, Vol. 3, 2016.
- 19) **S. Suja Priyadharsini** , S. Edward Rajan, “Evolutionary computing based approach for the removal of ECG artifact from the corrupted EEG signal” Technology and Health Care, 22, pp.835–846, 2014
- 20) **Suja Priyadharsini**,S, Bala Sonia, R and Deje, "A Hybrid Elm-Wavelet Technique for the Classification and Diagnosis of Neuromuscular Disorder using EMG Signal. IIOABJ Special Issue on Applications of Soft Computational Approaches in Bioinformatics, Vol.6, Issue 4, pp. 98-106,2015
- 21) Sharmi Sathya,S and **Suja Priyadharsini**, S “Classification of ECG signals using soft computing techniques” International Journal of Applied Engineering Research, Vol. 10,pp. 892-896,2015.
- 22) Emela Karunya, R and **Suja Priyadharsini, S** “Lossless compression of ECG signal using decomposition method” International Journal of Applied Engineering Research, Vol. 10,pp.881-886,2015.
- 23) Mary Thomas Sahana, B and **Suja Priyadharsini,S** “Extraction of fetal ECG from abdominal signal using filtering techniques” International Journal of Applied Engineering Research, Vol. 10,pp. 1056-1060,2015.
- 24) Divya, S and **Suja Priyadharsini .S**“ Classification of EEG Signal for Epileptic Seizure Detection using EMD and ELM” international journal for Trends in Engineering & Technology, Vol.3, Issue.3,pp.2349-9303,2015.

- 25) Akhila Devi.B.V, and **S.Suja Priyadharsini**, “Diagnosis of neuromuscular Disorders using soft computing techniques”.International Journal of Soft Computing and Engineering,Nov 2013
- 26) **Suja Priyadharsini. S** and Edward Rajan,S “An Efficient method for the removal of ECG artifact from measured EEG Signal using PSO algorithm”, International Journal of Advances in Soft Computing and its Applications., Vol. 6, No. 1, pp.1-19, March 2014, ISSN 2074-8523.
- 27) **Suja Priyadharsini. S** and Edward Rajan , S“An Efficient Soft-Computing Technique for extraction of EEG signal from tainted EEG Signal” Applied Soft Computing, vol.12, pp.1131-1137, 2012.
- 28) Jenisha J,Hannah and **Suja Priyadharsini. S** “Patient Adaptive ECG Beat Classifier Using Repetition Detection Approach Enhanced by Neural Networks” CiiT journal of Artificial Intelligent Systems and Machine Learning, ISSN 0974-9667,July 2012.
- 29) Muthusivagami, R and **Suja Priyadharsini. S** “An Improved Particle Swarm Optimization Algorithm for the Resolution of Superimposed Motor Unit Action potentials”CiiT International journal of Artificial Intelligent Systems and Machine Learning,Vol 3,No. 6,June 2011.
- 30) T.Johny Rani, **S. Suja Priyadharsini**, “Region of interest tracking in video sequences”, International Journal of Computer Applications, Volume 2, June 2010 Edition.
- 31) A.Saradha Devi, **S. Suja Priyadharsini**, S.Athinarayanan “A block based scheme for enhancing low laminated images,”International Journal of Multimedia & Its Applications (IJMA), ISSN:0975-5578,August 2010.
- 32) S.Latha, **S. Suja Priyadharsini** “Artifact Reduction in Compressed Images and Videos Using Adaptive Fuzzy Filtering”, International Journal of Information Analysis and Processing (IJIAP), New Delhi.

### **International Conferences**

1. S.Femilin Sheniha, **S,Suja Priyadharsini** and S.Edward Rajan, “Removal of artifact from EEG signal using differential evolution algorithm”,International Conference on Communication and Signal Processing, April 2013, pp.134-138.

### **National Conferences**

1. P.Senthil kumar and **S.Suja Priyadharsini** , “An Efficient Extraction of fetal ECG from abdominal ECG using Soft Computing Techniques”,Proc. Of 7<sup>th</sup> National Conference on Advanced Image Processing and Networking, March 2011,pp.164-172.
2. R.Muthusivagami and **S. Suja Priyadharsini**, “EMG resolution of superimposed motor unit action potentials using soft computing techniques”, National Conference on Nascent Technologies in Signal processing and Communications , March 2011,pp.15
3. S.B.Anisha angel and **S. Suja Priyadharsini**, “A novel approach for Epilepsy and Epileptic Seizure Detection”, National Conference on High Performance Computing,March 2011,pp.13.

4. J.Persiya and **S. Suja Priyadharsini**, “An Effective approach to remove ocular artifacts from EEG signals”, Proc. Of National Conference on Advanced Image Processing and Networking, March 2011, pp.120-127.
5. S. Latha and **S. Suja Priyadharsini**, “Traffic Management using SOBEL operator”, Proc. Of 6<sup>th</sup> National Conference on Advanced Image Processing and Networking, March 2010, pp.115-121.

**Invited as Chairperson at National Conferences / Symposium:**

1. Chief Guest and delivered a lecture on “Biomedical Signal and Image processing” in the National Conference on Biomedical Signal and Image processing organized by Department of Biomedical Engineering, Udhaya School of Engineering held on 15.03.2019.
2. Delivered a guest lecture in the topic “ Finite Word Length Effects in Digital Filters and Practical Applications of FFT” in a Faculty Development Programme held on 20<sup>th</sup> June 2018 conducted by University College of Engineering Nagercoil.
3. Delivered a guest lecture on “Signals and Systems” in a Faculty Development Programme held on 12<sup>th</sup> June 2017 conducted by Anna University Regional Campus-Tirunelveli.
4. Delivered a lecture in the topic “Advancements in Electronics” in the National level Technical Symposium NECTAR 2K16 conducted by Department of ECE, St.Mother Theresa Engineering College held on 24.09.2016.
5. Delivered a lecture in state level technical seminar on the topic of “Brain Computer Interface- Interacting EEG and Gaze” 2016, organized by NEC, Kovilpatti.
6. Chaired a technical session of the International Conference on “Technical Innovations in Electrical, Electronics, Computer and Communications”, organized by PET Engineering College, Vallioor held on March 2015.

**Conferences / Seminars / Workshops/ Symposium Organized:**

1. Organized One day Regional Level Technical Symposium “ELECTRO SPITZER-22” on 6<sup>th</sup> May 2022.
2. Organized two day International workshop on “Scopes and Challenges of Scientific Technology Intervention in Indian medicine”. from 7<sup>th</sup> to 8<sup>th</sup> August 2015
3. Organized one day Expo “Energizing Future India” in association with Kudankulam Nuclear Power Project from 3<sup>rd</sup> to 4<sup>th</sup> September 2015.
4. Organised International workshop on “Biomedical Signal and Image processing” on March 12<sup>th</sup> and 13<sup>th</sup>, 2015.
5. Organised three day workshop on “Wavelets and its Applications” from 7<sup>th</sup> -8<sup>th</sup> February 2014
6. Organized two day workshop on “Biomedical Signal and Image Processing” on 26<sup>th</sup> and 27<sup>th</sup> February 2014.
7. Organised three day workshop on “Soft Computing Techniques and its Applications”

from 4th -6th March 2013.

**Short Term Courses / Faculty Development Programme Attended:**

- 1) Six Day FDTP on “Cyber Forensics” organized by Department of CSE, Anna University Regional Campus – Tirunelveli sponsored by CFD, Anna University, Chennai from 17<sup>th</sup> January to 22<sup>nd</sup> January, 2022.
- 2) 5-day FDP on “Inculcating Universal Human Values in Technical Education” organized by All India Council for Technical Education(AICTE) from 14 th March, 2022 to 18th March, 2022.
- 3) Two Weeks Faculty Development Programme on "Managing Online Classes And Co-Creating MOOCS:2.0" organized by Teaching Learning Centre Ramanujam College, University of Delhi, from May 18 - June 03, 2020
- 4) Faculty Development programme titled “ Data Science for All” organized by Electronics and ICT Academies,NIT Warangal from 27<sup>th</sup> July to 8<sup>th</sup> August, 2020
- 5) Two Week Faculty Development Programme (2018), “Electromagnetic Fields” organized by Department of ECE, Anna University Regional Campus - Tirunelveli and funded by CTDT, Anna University, Chennai, during 03.12.2018 to 15.12.2018.
- 6) Two Week Course (2018), “Mentoring Educators in Educational Technology”, organized by IIT Bombay during 18/6/2018 to 27/6/2018.
- 7) ICMR sponsored workshop (2018) “ NanoTechnology”, organized by Department of Mechanical Engineering, Government College of Engineering, Tirunelveli during 24.1.2018 to 25.1.2018.
- 8) One Week Faculty Development Programme (2017), “Distributed Systems”.organized by Department of CSE, Anna University Regional Campus - Tirunelveli and funded by CTDT, Anna University, Chennai, during 27.11.2017 to 3.12.2017.
- 9) Two Week Course (2017), “Pedagogy for Online and Blended Teaching - Learning Process”, organized by IIT Bombay and funded by MHRD during 14.09.2017 to 20.11.2017.
- 10) National level seminar (2017), “Research Perspectives And Challenges In Instrumentation Aspects of IOT”, organized By Department Of EIE National Engineering College Kovilpatti, during 25-10-2017 to 27-10-2017.
- 11) Two Week Foundation Program (2017), “ICT for Education”, organized by IIT Bombay and funded by MHRD during 03.08.2017 to 07.08.2017.
- 12) Two Day Hands on Workshop (2017), “Python Programming”, organized by Anna University Regional Campus – Tirunelveli and sponsored by Centre for Faculty Development, Anna University, Chennai during 21.08.2017 to 22.08. 2017.

- 13) DST-SERB sponsored 3-day seminar (2016) “Current Research Trends in Computational Techniques in Bioinformatics”, organized by Department of EEE, Thiagarajar College of Engineering during 21/09/2016 to 23/09/2016.
- 14) Two day DBT sponsored workshop (2016) “Modern Computing Technologies for Affective Brain computer Interface”, organized by National Engineering College, Kovilpatti during 08 .01.2016 to 9.01.2016.
- 15) TEQIP sponsored two day workshop (2015) “Evolutionary Optimization Algorithms and Applications”, organized by Department of EEE, Thiagarajar College of Engineering during 04.03.2015 to 05.03.2015.
- 16) One day Pre-conference workshop (2015)” Analog Design”, Organized by Anna University Regional Campus – Tirunelveli during 19.03.2015.
- 17) Two day Workshop (2015) “ Cloud OpenStack KILO11”, Organized by Anna University Regional Campus – Tirunelveli during 29.10.2015 to 30.10.2015.

**Research Collaborations: Nil**

**Patents: Nil**

**Membership in Professional Bodies :** Life Member, Indian Society for Technical Education

**Countries Visited : Nil**