Department of ECE

Name	Dr.S.Mohanalakshmi	
Date of Birth	22.10.1973	
Unique ID	1-7370839070	
Educational Qualifications	B.E,M.E.PhD	
Designation	Professor	
Email ID	jaimohana@sethu.ac.in	
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Experience	Industry	Teaching	Others	Total
	-	28	-	28

Date of Joining the Institution	18.12.2023
Area of Specialization	Biomedical Signal and Image Processing
Courses taught	Internet of Things, Robotics and Automation, Microprocessor and Microcontroller, Electromagnetic Fields, Optical Communication and Networks, Embedded and Real Time System, Medical Electronics, Embedded System (PG),Advance Microprocessor and Microcontroller(PG)
Research Focus	Biomedical Signal and Image Processing, Machine Learning
Research guidance (Number of Scholars)	
Subject Competency	Image Processing, IoT

No. of papers published	National Journals	International Journals	Conferences

PG Specialization	Applied Electronics
Ph.D. Specialization	Biomedical Signal and Image Processing
Projects Carried out	-
Patents (Filed & Granted)	3
Technology Transfer	-
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	**2 Book Chapters published** 1. 1.Machine Learning and Deep Learning Techniques in Wireless and Mobile Networking Systems, CRC Press,2021,(ISBN- **978-0367620066**) 2. Futuristic Trends in Artificial Intelligence, IIP series,2024(e-ISBN: 978-93-6252-144-6)

Academic Credentials

Level	Degree	Specialization	University	Year of Completion
UG	**B.E**	Electronics & Communication	Bharathidasan University	1995
PG	**M.E.**	Applied Electronics	Sathyabama University	2005
Ph.D.	**Ph.D**	Biomedical and Signal Processing	Anna University, Chennai	2017

Details of Journal Publication:

1. **Dr.S. Mohana Lakshmi,**, 2024, Addressing cyber security concerns in the IoT era Building Robust Platforms for Protecting Interconnected Devices, Journal of Computational Analysis and Applications, vol.33, Issue 8.

2. **Dr.S. Mohana Lakshmi,** 2024, Locust-based genetic classifier for abnormality identification in brain, Review of Computer Engineering Research, vol.3, Issue 11.

3. Dr.Samudrapandi, **Dr.S. Mohana Lakshmi,** 2024, Dynamic node selection approach for 6G heterogeneous cellular networks to enhance QoS and latency, Journal of electrical systems, Volume 20, Issue 03.

4. **Dr.S. Mohana Lakshmi,,** 2024, Attention based Fused CNN for the early detection of Gastrointestinal Disease, International of Electronics and Communication Engineering, Volume 11, Issue 038.

5. Sathya S, **Dr.S. Mohana Lakshmi** , 2022, Automatic Prediction of Tp53 Mutation in Pancreatic Cancer Using PSO Based Convolution Neural Network (CNN), International Journal of Advanced Trends in Engineering and Management, Volume I, Issue 03

6. **Dr.S.Mohanalakshmi** S.Soban, C.K.Morarji, 2021, Locust based genetic classifier for the diagnosis of diabetic retinopathy, Journal of Ambient Intelligence and Humanized Computing, Vol.12, Issue 3.

7. Kingsly.J, **.S. Dr. Mohanalakshmi** 2021, Resource Allocation For The User Centric MIMO- NOMA Based IoT Networks, IJSART**,** Vol.7, Issue 4.

8. Dr.L.Bhagyalakshmi Dr.Kumar Suman **Dr.S.Mohanalakshmi** Dr.S. Singh, 2020.Improving Special Efficiency and Coverage Capacity of 5G Networks Advances in Mathematics: Scientific Journal, Vol.9 Issue 6, Pages 3387-3397.

9. **Dr.S.Mohanalakshmi** Sudarson rama Perumal,Moraji C K,Nelson kingsley Joel.2020 Convolutional Neural Network Based Cerebral Edema Segmentation Using GLCM, Solid State Technology,Vol.63,Issue 6

10. **Dr.Mohanalakshmi Soundararajan,** Moraji C K, 2020, Liver Tumor Segmentation using 3D Fully Convolutional Neural Network, International Research Journal of Engineering and Technology, Vol.7, Issue 8.

11. **Mohanalakshmi Soundararajan,** Sivasubramanian Arunagiri & Swarnalatha Alagala 2017, 'Statistical analysis of pulse rate variability quantified through second derivative photoplethysmogram (SDPPG) and its compatibility with electrocardiographic (ECG) heart rate variability', Biomedical Research, vol. 28, no 2, pp.689-694.

12. .**Mohanalakshmi Soundararajan,** Sivasubramanian Arunagiri & Swarnalatha Alagala,2017, 'Predicting Arterial stiffness from physiological characteristics of photoplethysmography signals quantified through second derivative', Indian Journal of Science and Technology, vol. 10, no.12, pp.1-8.

13. **Mohanalakshmi Soundararajan,** Sivasubramanian Arunagiri & Swarnalatha Alagala 2016, 'An adaptive delineator for photoplethysmography waveforms', Biomedical Engineering-Biomedizinische Technik, vol 61, no. 6, pp.645-656.

14. **Mohanalakshmi Soundararajan** & Sivasubramanian Arunagiri 2015, ' Optical sensor system for the non-invasive assessment of Arterial Stiffness quantified by Fourth derivative of Photoplethysmogram', Biomedical Engineering: Applications, Basis and Communications, vol. 27, no. 3 , 1550021 (7 pages).

Details of Conference attended:

1. **Mohanalakshmi Soundararajan** & Sivasubramanian Arunagiri 2012, 'A Review on the non-invasive assessment of Atherosclerosis and other cardiovascular risk factors through second derivative of photoplethysmogram', Proceedings of the International Conference on Recent Advances in Science and Engineering (ICRASE) 30-31,October, 2012, Hyderabad, ISBN 978-81-923541-0-6.

2. **Mohanalakshmi Soundararajan** & Sivasubramanian Arunagiri 2013, Diagnostics of Arterial Stiffness Quantified by Fourth Derivative of Photoplethysmogram', Proceedings of the International Conference on Mathematical Computer Engineering (ICMCE), ISBN 978-93-82338-91-8 © 2013 Bonfring.

3. Kaviya. J and **Mohanalakshmi Soundararajan** (2016), 'Assessment of Blood Glucose Level Using Photoplethysmography Signal', in Proceedings of 1st International Conference on Data Analytics &Mathematical Modelling.

4. **Mohanalakshmi Soundararajan,** Sivasubramanian Arunagiri & Swarnalatha Alagala 2017, 'Arterial Stiffness Assessment through Augmentation Index Quantified by Derivatives of Photplethysmogram', Proceedings of the National Conference on Emerging Trends in Mathematical Sciences (NCETMS).

5. R.Divya bharathi & **Mohanalakshmi Soundararajan** 2018, 'Retinal Vessel Extraction and Analysis using Graph Trace Method', Proceedings of the National Conference on Big Data, Cloud and security (NCBCS).

6. **Mohanalakshmi Soundararajan,** 2020, Smart Monitoring System for Alzheimers Patient, Proceedings of the International conference on "Automation, Intelligent Computing and Communication.

7. **Mohanalakshmi Soundararajan,** 2023, Analysis and Design of Channel Estimation in Uplink Multiuser MIMO-OFDM System, Proceedings of the International conference on Automation, Intelligent Computing and Communication.

8. **Mohanalakshmi Soundararajan,** 2023, Convolutional Neural Network Based Method for Predicting Brain Tumor using MRI Images, Proceedings of the International conference on Automation, Intelligent Computing and Communication.

9. **Mohanalakshmi Soundararajan,** 2024, Terra Tech: Sustainable Innovations for a Greener Future, Proceedings of the National conference on AI,Cyber Security,Healhcare and Agricultural Applications.

Details of Book Chapter and Books Published:

1. T Sudarson Rama Perumal, V Muthumanikandan, **Dr.S Mohanalakshmi**, 2021, Energy Efficiency Optimization in Clustered Wireless Sensor Networks via Machine Learning Algorithms in the Book Machine Learning and Deep Learning Techniques in Wireless and Mobile Networking Systems, pages 59-77, CRC Press.

2. **S.Mohanalakshmi**, 2024, Deep Learning PNN Classifier for Diabetic Retinopathy Identification in the Book Futuristic Trends in Artificial Intelligence, Volume 3, Book 3, Part 2, Chapter 6, pages 62-76, IIP Series.

Details of Patents Filed and Granted:

- AI based street light changing device granted on 08.04.2025

- Design for Automatic Sanitizer Spray Machine for Currency Published on 3.7.2020

- A Novel Approach for Maintenance and Prediction Of Health Of Persons Using Machine Learning, Published on 12.6.2020.

Expert Lecture Delivered:

1. Webinar on AI and Medical Imaging delivered on 20.12.2024

2. Lecture on Curriculum Design and development in FDP on 31.05.2024.