


Name:	Dr. J.THAMIL SELVI			
Designation:	Professor & HOD			
Qualification:	A.M.I.E, M.E, Ph. D			
Dissertation title	<i>Extraction and Validation of Edge maps for breast thermal image segmentation using Level sets-Anna University(December 2018)</i>			
Experience : (as on Dec 2023)	Industrial Experience		Teaching Experience	
	3 Years		21 Years	
Number of workshop / FDP/STTP attended:	Number of Workshops		Number of FDPs	
	11		12	
Publications	Conference		Journal	
	National	International	National	International
	7	18	3	12
Book Chapter	3			
Patents	3			
Funded Projects(Ongoing)	<ol style="list-style-type: none"> 1. AICTE -RPS- 19 Lakhs 2. AMTZ(Startup fund) - 5 Lakhs 3. MSME Champion scheme - 15 Lakhs 			
Professional Body Membership	<ol style="list-style-type: none"> 1. LMISTE(45279) 2. Institution of Engineers(India) 3. Senior IEEE member 			

Workshops/Seminars attended:

- 1 Workshop on “VLSI Design & Embedded System Technologies”, at Jerusalem Engg College, October 2002
- 2 Workshop on “Fiber Optic Communication”, at Sri Sairam Engg. College, 27th & 28th November 2003.
- 3 Workshop on “ Network and Security”, Sri Sairam Engineering College, 22nd Sep 2006
- 4 National Workshop on “Recent Trends in Wireless Information Network and Systems”, Sri Sai Ram Engineering College, 1st February 2008.
- 5 Workshop on VLSI design Methodology and Tools” ,at Sri Sairam Engineering College,7th and 8th October 2010
- 6 AICTE sponsored “Workshop on Medical Imaging” ,IIT Kharagpur, 2nd to 7th Jan 2011
- 7 Workshop on “Wireless Communication and Radiating Systems” , Sri Sairam Engineering College,21st and 22nd March 2011.
- 8 DRDO sponsored workshop on “Recent trends in antennas for multifield applications”, Sri Sairam Engineering College,27th and 28th December 2012
- 9 Three day hands on workshop on” Neural networks, Fuzzy Logic and Pattern Recognition for Engineering and Healthcare Applications”, M.S. Ramaiah Institute of Technology, Bangalore, 27th to 29th September, 2013
- 10 One day workshop on “An overview of Medical device Regulations”, at Indian Institute of Technology Madras, 6th April 2017
- 11 2020 IEEE EMBS International Workshop on "Wearable Sensors and Devices, Artificial Intelligence And Wearables Markets (Wsaim)", Nov 18-19,2020

FDP/STTP Attended

- 1 Staff development Program on “Instructional Design & Delivery”, at Sri SaiRam Engg. College, 8th & 9th January 2009
- 2 Staff development Program on “Mobile Networks”, at Sri SaiRam Engg College, 19th to 30th January 2009.

- 3 STP on "Ultrasound imaging systems and applications" ,IIT Roorkee, 27th to 29th January 2010.
4. FDP on "Data science with Python" conducted by ICT Academy , 12th to 14th March 2020.
- 5 AICTE FDP on "Internet of Things" conducted by National Institute of Technical Teachers Training and Research(NITTTR) Chandigarh, 10th to 14th April 2020.
- 6 ATAL FDP on "Data Science and Analytics" conducted by Indian Institute of Information Technology, Nagpur, Nov 30 to Dec 4,2020.
- 7 ATAL FDP on "Robotics system design, Fundamentals, design and its application" conducted by IIT Ropar, Nov 2-6,2020.
- 8 International FDP on "Enhancing Digitization Teaching in the Post-COVID Period", by Mepco Schlenk Engineering College, ,June 18-24,2020.
- 9 ATAL FDP on "Inculcating universal human values in Technical education" May 3-7 , 2021.
- 10 ATAL FDP on "Research and Innovation for Growth" conducted by BNM Institute of Technology , Aug 23-27,2021.
- 11 ATAL FDP on "An insight to Biomedical instrumentation, Biomedical signal and image processing with hands on experience and Labview programming", conducted by Poojya Doddappa Appa College of Engineering, Aug 2-8,2021.
- 12 SSTP on "Advancement of AI enabled Software development from Benchtop to Commercial Product" SRM Institute of Science and Technology, Oct 9-13,2023.

Symposium Attended

- 1 Symposium on "Healthcare Instrumentation Present and Future: Clinical Technology and Perspective" at Anna University, 1st November 2014.

Conference Attended

- 1 International Conference on "Computers, Controls & Communication" at Sri Sairam Engineering College, 20th to 22nd August 2004.
- 2 National Conference on "Biomedical Engineering and Biomedical Instrumentation" at Sri Sairam Engineering College, 5th and 6th Feb 2009.
- 3 International Conference on "Innovative Computing, Information and

Communication Technology” at Sri Sairam Engineering College, 16th and 18th December 2009.

- 4 National conference on “Advanced communication and computing techniques’NCCAT’13 at Sri Sairam Engineering College, 18th & 19th March, 2013
- 5 International conference on Broadband and Wireless Technologies(ICBWT’16) at Sri Sairam Engineering College, 23rd -24th June 2016

Ongoing Projects

1. Currently developing “**AI Enabled Public screening healthcare system**” with grant of **Rs.19 Lakh** funded by **AICTE- RPS**, AY 2021-2022
2. Currently developing “**An intelligent thermal breast cancer screening tool**” with grant of **Rs. 5 Lakh** under the incubation of **AMTZ, Visakhapatnam, Andhra Pradesh**, AY 2021-2022
3. SERB-POWER Grant proposal on "**A Non-Invasive, Portable and an Intelligent screening device To predict Diabetic Foot Ulcer(DFU) at an early stage**" AY 2022-2023.
4. Received MSME Idea Hackathon 2.0 fund of **Rs.15 Lakhs** titled "**An AI powered Breast screening system to predict breast cancer at an early stage**" AY 2023-2024 .

PATENT

1. **J.Thamil Selvi et.al , "Frequency based Insect repellent system for Safety agricultural field"**, 202041036488A ,36/2020, 25/08/2020, The Patent Office Journal No. 36/2020 Dated 04/09/2020.
2. **J.Thamil Selvi,et.al, “A wearable pregnancy monitoring apparatus to collect physiological parameters” 202241064840, :12/11/2022, The Patent Office Journal No. 46/2022 Dated 18/11/2022.**
3. **J.Thamil Selvi,et.al, "An Intelligent, Wearable Device To Predict The Onset Of Epileptic Seizure" No.202341036140,:16/06/2023, The Patent Office Journal No. 24/2023 Dated 16/06/2023.**

PUBLICATIONS

Book Chapter

1. **Thamil Selvi, J 2020(In print)**, ‘Segmentation and validation of infrared breast images using weighted level set and phase congruency edgemap framework’, in Priya. E and Rajinikanth V(Ed’s) , *Signal and Image Processing techniques for the Development of Intelligent Healthcare Systems*, **Springer Nature**, DOI : **10.1007/978-981-15-6141-2**
2. **Thamil Selvi, J,2021**, " Modularity for geometric reconfiguration of robot systems" in Mr. M. Sudhakar(Ed), *Robotics and Automation*, *ESN Publications*, ISBN : 978-93-90781-09-6
3. **Thamil Selvi, J, 2021**,Subhashini, K. and Methini, M., “Investigation of COVID-19 Chest X-ray Images using Texture Features–A Comprehensive Approach”. In *Computational Modelling and Imaging for SARS-CoV-2 and COVID-19* (pp. 45-58). **CRC Press**, DOI : **10.1201/9781003142584**

PAPER PUBLISHED IN INTERNATIONAL/ NATIONAL JOURNALS

- 1 **J.Thamil Selvi, Kavitha, G. and Sujatha, C.M., 2018. An approach to extract edge maps in infrared based breast images using inverse Perona-Malik diffusion filter** *International Journal of Biomedical Engineering and Technology*, 28(3), pp.261-272.
- 2 **Thamil Selvi, J., Kavitha, G. and Sujatha, C.M., 2018. Fourth order diffusion model based edge map extraction of infrared breast images.** *Journal of Computational Methods in Sciences and Engineering*, (Preprint), pp.1-8.(web of science)
- 3 **Thamil Selvi, J, Kavitha, G &Sujatha, CM, ‘Analysis of breast thermogram using BLS-GSM technique and total variation diffusion filter based level set’,** *Biomedical Sciences Instrumentation*, vol.52, ISBN- 9781510830332 (Annexure II)
- 4 **Thamil Selvi, J, Kavitha, G &Sujatha, CM, ‘Analysis of breast thermogram using Adaptive Lifting Wavelet Transform and GLRL texture features’,** *Biomedical Sciences Instrumentation*, vol.53, ISBN-9781945541643 (Annexure II)
- 5 **Thamil Selvi, J, Kavitha, G & Sujatha CM 2016 ‘Analysis of breast thermograms using Gaussian Bilateral Filter and Statistical texture features’,** *Journal of Instrument society of India*, vol. 46, no.3,pp 71-74
- 6 **Thamil Selvi, J, Kavitha, G & Sujatha, CM 2015 ,’Analysis of Plaque in Ultrasound Carotid Artery Using Phase Based Distance Regularized Level Set Evolution”** , *Journal of Instrument society of India*, vol .45, no.1, pp 131-134.
7. **Thamil Selvi,J, Arvind.B.K, Hrishikesh.V,,NaveenPrasath.V(2020), ' Image based seed quality testing'**, in *Studies in Indian Place Names(UGC journal*, ISSN: 2394-3114, Pages 1-6

8. Mukherjee, C., **Thamil Selvi, J**, Ramesh, M., Thomas, L., Anusuya, M. and Lakwal, V.R., 2022, May. A review on prediction of cardiac arrest analysis in early stage. In *AIP Conference Proceedings* (Vol. 2393, No. 1, p. 020189). AIP Publishing LLC.
9. **Thamil Selvi .J.**, S. Keerthana Devi, S. Shreya, & M. Sanjana. (2022). "**Visual Cues to Voice Cues**". *Journal of Pharmaceutical Negative Results*, 377–381.
<https://doi.org/10.47750/pnr.2022.13.S03.062>
10. **Thamil Selvi.J.**, S.N. Sunandha, V. Gayathri, P.Kiruthiga, & V.Sujitha. (2022). "**Smart Card based E-Health Record**". *Journal of Pharmaceutical Negative Results*, 382–385.
<https://doi.org/10.47750/pnr.2022.13.S03.063>.
11. **Thamil Selvi. J.**, Hariharan, M., Prashanth, M., Aakash, S., Sangavi, S., & Roshini, A. (2023). "**Portable Device to Predict Diabetic Foot Ulcer**", *Journal of Population Therapeutics and Clinical Pharmacology*, 30(12), 249-255.
12. Gayathri, N., & **Thamil Selvi, J.**, (2023). "**Investigation of various Supervised Machine Learning Algorithm to characterize Mammogram Breast Images**", *Journal of Survey in Fisheries Sciences*, 10(2S), 406-417.

PAPER PUBLISHED IN NATIONAL / INTERNATIONAL CONFERENCES

1. **Thamil Selvi, J 2010**, ‘Automated help seeking system’, National Conference on Embedded ,Microwave and Integrated Technologies-EMIT’10 at Saveetha Engineering College
2. **Thamil Selvi, J 2010** ‘Versatile transport using Maglev’, National Conference on Embedded ,Microwave and Integrated Technologies-EMIT’10 at Saveetha Engineering College
3. **Thamil Selvi, J, 2010** ,‘Study and analysis on the performance of music &LMS algorithm for smart antenna applications’ in DIT sponsored National Conference on Control,Communication and Information Technology (NCCCIT) at Easwari Engineering College
4. **Thamil Selvi, J, 2012**, ‘Contrast enhancement of color image using conventional histogram equalization’ in National conference on Networking, Communication Systems and Signal Processing at Karpaga Vinayaga College of Engineering and Technology.
5. **Thamil Selvi, J, April 2016**, ‘Aid for facial paralysed people for communication with others’, International Conference on Futuristic Engineering, Science and Technology at Agni College of Engineering and Technology
6. **Thamil Selvi, J, June 2016**, ‘Aid for Facial paralysed people for home automation and communication’, International conference on broadband and wireless technologies(ICBWT’16) at Sri Sairam Engineering College

- 7 **K.Ishwarya, J.Thamil Selvi, May 2016, 'Optimization based macula segmentation for retinal image analysis', 7th National conference on Research issues in Computer science and Engineering**
- 8 **Thamil Selvi, J., Kavitha, G. and Sujatha, CM 2016, 'Analysis of breast thermogram using BLS-GSM technique and Total Variation diffusion filter based Level Set', In 53rd Rocky Mountain Bioengineering Symposium, April 2016, Denver, Colorado, USA(presented in person)**
- 9 **Thamil Selvi, J, Kavitha, G and Sujatha, CM, 2016, 'Analysis of breast images using Bilateral filter and Distance Regularized Level Set', 2nd International Conference on Biomedical Systems, Signals and Images, IIT Madras**
- 10 **Thamil Selvi, J, Kavitha, G, Sujatha CM 2017 , 'Fourth order diffusion model based edge map extraction of infrared breast images', 4th International Conference on Computational Methods in Engineering and Health Sciences, Manipal Institute of Technology, Manipal**
- 11 **Thamil Selvi, J, Kavitha, G & Sujatha, CM, 2017, 'Geometric nonlinear diffusion filter based edge map extraction and its validation of infrared breast images", In Biosignals, Images and Instrumentation (ICBSII), 2017 Third International Conference on (pp. 1-5). IEEE. DOI -[10.1109/ICBSII.2017.8082281](https://doi.org/10.1109/ICBSII.2017.8082281)**
- 12 **Thamil Selvi, J., Kavitha, G. and Sujatha, CM, 2017, 'Analysis of breast thermogram using Adaptive Lifting Wavelet Transform and GLRL texture features', In 54th Rocky Mountain Bioengineering Symposium, Colorado, USA**
- 13 **Thamil Selvi J, Aishwarya V,Nandhini.K.,Saraswathi.P., "Investigation and Classification of cardiocography data using Correlation coefficient and PCA based features",In IoT based Control Networks and Intelligent systems(ICICNIS 2020),10-11 December 2020**
- 14 **Thamil Selvi J, Aishwarya V, Nandhini.K., Saraswathi.P., "Analysis of CTG data using PCA features" in 2nd International Conference on Computing, Communication and Internet of Things(Ic3IoT 2020), 20-22 February 2020**
- 15 **Thamil Selvi, J, Gayathri, N., "Investigation of various Supervised Machine Learning Algorithm to characterize Mammogram Breast Images" In 10th International Conference on Contemporary Engineering and Technology(ICCET),June,2022**
- 16 **Thamil Selvi, J, et.al, "Smart Card based E-HEALTH record", In 10th International Conference on Contemporary Engineering and Technology(ICCET), June,2022**
- 17 **Thamil Selvi, J, et.al, "Visual Cues to Voice Cues", In 10th International Conference on Contemporary Engineering and Technology(ICCET), June,2022.**
- 18 **Priya, E., Thamilselvi, J.& Reshma, P. S. (2023, July)." Machine learning technique-based diagnosis of wrist-radial pulse", 14th International Conference on Computing**

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Communication and Networking Technologies (ICCCNT) (pp. 1-5). IEEE.

International Conference/National Conference/Workshop/Symposium Organized

- 1 **Organized** and acted as **Convener** for **National level technical Symposium Coloquio'2011** for various inter and intra college students of engineering colleges.
- 2 **Organized** and acted as **Convener** for IEEE sponsored Workshop on **“Emerging trends and future perspective in image processing and computer vision”** since 2015.
- 3 **Organized** and acted as **Organizing secretary** for AICTE sponsored **International conference on Communication, Computing and Internet of Things -IC3IOT2020** at Sri Sairam Engineering College, 20-22 February 2020 .
4. **Organized Alumni talk on "Future Skills for employment"**, Department of ECE, Sri Sairam Engineering College, 27-30 May 2020.
5. **Organized "Fun with electronics - IEEE STEM Event"** through WIE AG Group fund for Government high School, Nanthampakkam.

INVITED TALKS

- 1 Delivered short course on **“Signal Processing and Deep learning techniques for the development of Intelligent Healthcare systems”** in *IEEE Technically sponsored Internal Conference on Communication, Computing and Internet of Things, February 2018*
2. Delivered Guest lecture on **“Concepts and Applications of Signals, systems and signal processing algorithm”** at *Dhanish Ahmed Engineering College, Chennai, India August 2016.*
3. Delivered talk on **"Comparison and validation of infrared breast image edge maps for segmentation using level sets"** in *the Global conference on breast cancer research, September 02-03,2019 Rome, Italy*
4. Delivered Guest lecture in **the Anna university FDP on EE8591 Digital Signal Processing" under the title " Discrete Fourier Transform(DFT) and convolution using DFT and IDFT"** at *SRM Valliammai Engineering College on 11th June 2019*
5. Delivered guest lecture for the **Online Faculty Development program on Image processing** at Valliammai Engineering College from 11.05.2020 to 15.05.2020
6. Delivered guest lecture on **"Machine learning Techniques, Tools and applications"** in AICTE sponsored Online Short Term Training Programme On **“Short term training on Zero-shot learning by convex combination of semantic embeddings”**, conducted by Sri Krishna Engineering College, Coimbatore, Nov 05,2020
- 7 Delivered lecture on **"Machine learning techniques on health care industry with PYTHONS"** in AICTE sponsored FDP hosted by Instrumentation and Control Engineering on Jan 30,2021.
8. Delivered lecture on **"Machine learning techniques"** in Anna university sponsored

FDP, June 7, 2021.

9. Delivered talk on "**Fempreneurs Unplugged - Female founder stories on transformation**" IEEE Madras Section - Women in Engineering Affinity group , Oct 18,2023.
- 10 Delivered guest lecture on "**Awareness on Startups**", SRM Institute of Science and Technology, **Sep 9, 2023.**

CERTIFICATE OF EXCELLENCE

1. **Session chair and Reviewer** for the 2019,3rd International conference on Computing and Communication Technologies(ICCCT'19),Conducted by Department of Information technology, Sri Sairam Engineering College.
2. **Event Judge** " SMARTATHON-AIE" of QUASAR 23, 5th National level Robofest of Electronics &Instrumentation Engineering, Nov,3,2023.
3. **Session Chair** " IEEE Technically Sponsored First International Conference on ICCEBS 2023" organized by Department of EIE , Dec 14-15,2023.
4. **Reviewer** " 12th International conference on advanced Computing (ICoAC 2023)" Organized by Department of Computer technology, MIT Campus, Aug 18- 19,2023 .

AWARDS

1. Received '**Best Faculty advisory award 2021**' from The Institution of Engineers(India), Hosur Local Centre, September 2021
2. Received '**Top performance mentor**' for the remarkable service as mentor for motivating the students to excel skillrack performance, February,2022
3. Received "**Best Startup Award**" from Sri Sairam Engineering College, during Teachers day occasion, Sep 5,2022
4. Received "**Best Startup Award**" from Sri Sairam Engineering College, during Teachers day occasion, Sep 5,2023
5. Recognized as "**Top-100- National Top Mentor - ATL Tinkerpreneur 2023**" Presented by AIM-NITI Aayog.
6. Received '**Best Faculty advisory award 2023**' from The Institution of Engineers(India), from Adhiyaman college of Engineering, Hosur Local centre.

REVIEWER IN JOURNAL

1. IET Signal Processing
2. International Journal of Clinical and biomedical engineering(IJCBE)
3. Advances in Science, Technology and Engineering System journal
4. International journal of Biomedical Engineering and Technology(IJBET)

ACCOMPLISHMENT

1. NPTEL –AICTE FDP Certificate for successfully completing the course **Introduction to Machine learning.**
2. NPTEL –AICTE FDP Certificate for successfully completing the course **Basis of Finite element Analysis-1 in Elite category.**
3. Completed 23 hrs of **Deep Learning A-z:Hands on Artificial Neural Networks** online course **on Nov 11 2019**
4. Completed "**Introduction to data analytics**" by Simplilearn through online on **8th April 2020**
5. Completed "**IoT Foundation**" by JIGSAW academy ,April 2020
6. Completed Coursera course "**Machine Learning for All**" by University of London
7. Completed online course "**Artificial intelligence and Drug Discovery**" by Shri Vithal Education and Research Institute, April 2020
8. Completed Coursera course "**Image classification with CNN using keras**",May 2020
9. Completed Coursera course "**Image compression using KNN**", May 2020
10. Completed course "**Create your first python program**", June 2020
11. Completed the course "**Sustainable development goals- A global,trasdisciplinary vision for the future**" University of Copenhagen, May 2020
12. Completed "**Programing for everybody(Getting started with python)**",University of Michigan, May 2020.
13. Completed "**Accreditation and Outcome based learning**" NPTEL course with with rank of **Top 5% Elite +Gold** certification, Aug-Oct 2023
14. Completed all **8 Modules of AICTE - NITTT**

STARTUP

**Founder & CEO - SMILE HEALTHCARE TECHNOLOGIES
SAIRAM TECHNO INCUBATOR FOUNDATION
Sri Sairam Engineering College, Chennai- 44**

Currently incubated under **Andhra Pradesh Medtech Zone (AMTZ)** with fund of **Rs.5,00,000/**. AMTZ is one of the world's largest medical technology park with medical device manufacturing facility. It is funded by AIC and supported by State Government.

