


<b>Name:</b>	Dr. J.THAMIL SELVI			
<b>Designation:</b>	Professor			
<b>Qualification:</b>	A.M.I.E, M.E, Ph. D			
<b>Dissertation title</b>	<i>Extraction and Validation of Edge maps for breast thermal image segmentation using Level sets-Anna University(December 2018)</i>			
<b>Experience : (as on Dec 2022)</b>	<b>Industrial Experience</b>		<b>Teaching Experience</b>	
	3 Years		20 Years	
<b>Number of workshop / FDP attended:</b>	<b>Number of Workshops</b>		<b>Number of FDPs</b>	
	11		8	
<b>Publications</b>	<b>Conference</b>		<b>Journal</b>	
	<b>National</b>	<b>International</b>	<b>National</b>	<b>International</b>
	7	10	3	7
<b>Patents</b>	2			
<b>Professional Body Membership</b>	LMISTE(45279), Institution of Engineers(India),Senior IEEE member			

### **Workshops/Seminars attended:**

- 1 Workshop on “VLSI Design & Embedded System Technologies”, at Jerusalam Engg College, October 2002
- 2 Workshop on “Fiber Optic Communication”, at Sri Sairam Engg. College, 27<sup>th</sup> & 28<sup>th</sup> November 2003.
- 3 Workshop on “ Network and Security”, Sri Sairam Engineering College, 22<sup>nd</sup> Sep 2006
- 4 National Workshop on “Recent Trends in Wireless Information Network and Systems”, Sri Sai Ram Engineering College, 1<sup>st</sup> February 2008.
- 5 Workshop on VLSI design Methodology and Tools” ,at Sri Sairam Engineering College, 7<sup>th</sup> and 8<sup>th</sup> October 2010
- 6 AICTE sponsored “Workshop on Medical Imaging” ,IIT Kharagpur, 2<sup>nd</sup> to 7<sup>th</sup> Jan 2011
- 7 Workshop on “Wireless Communication and Radiating Systems” , Sri Sairam Engineering College, 21<sup>st</sup> and 22<sup>nd</sup> March 2011.
- 8 DRDO sponsored workshop on “Recent trends in antennas for multifield applications”, Sri Sairam Engineering College, 27<sup>th</sup> and 28<sup>th</sup> 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, 27<sup>th</sup> to 29<sup>th</sup> September, 2013
- 10 One day workshop on “An overview of Medical device Regulations”, at Indian Institute of Technology Madras, 6<sup>th</sup> 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, 8<sup>th</sup> & 9<sup>th</sup> January 2009
- 2 Staff development Program on “Mobile Networks”, at Sri SaiRam Engg College, 19<sup>th</sup> to 30<sup>th</sup> January 2009.

- 3 STP on "Ultrasound imaging systems and applications", IIT Roorkee, 27<sup>th</sup> to 29<sup>th</sup> 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

#### **Symposium Attended**

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

#### **Conference Attended**

- 1 International Conference on "Computers, Controls & Communication" at Sri Sairam Engineering College, 20<sup>th</sup> to 22<sup>nd</sup> August 2004.
- 2 National Conference on "Biomedical Engineering and Biomedical Instrumentation" at Sri Sairam Engineering College, 5<sup>th</sup> and 6<sup>th</sup> Feb 2009.
- 3 International Conference on "Innovative Computing, Information and Communication Technology" at Sri Sairam Engineering College, 16<sup>th</sup> and 18<sup>th</sup> December 2009.
- 4 National conference on "Advanced communication and computing techniques'NCCAT'13 at Sri Sairam Engineering College, 18<sup>th</sup> & 19<sup>th</sup> March, 2013
- 5 International conference on Broadband and Wireless Technologies(ICBWT'16) at Sri Sairam Engineering College, 23<sup>rd</sup> -24<sup>th</sup> June 2016

### **Ongoing Projects**

1. Currently developing “**AI Enabled Public screening healthcare system**” with grant of Rs.19 Lakh funded by AICTE- RPS
2. Currently developing “**An intelligent thermal breast cancer screening tool**” with grant of Rs. 5 Lakh under the incubation of AMTZ, Visakhapatnam, Andhra Pradesh
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**".

### **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.**

### **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. **J. Thamil Selvi, 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 **J. Thamil Selvi, 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>.

### **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’,** 7<sup>th</sup> 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 *53<sup>rd</sup> 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 54<sup>th</sup> 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 2<sup>nd</sup> 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

#### **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



### **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,05,Nov 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 30.01.2021

### **CERTIFICATE OF EXCELLENCE**

1. **Session chair and Reviewer** for the 2019,3<sup>rd</sup> International conference on Computing and Communication Technologies(ICCCT'19),Conducted by Department of Information technology, Sri Sairam Engineering College

### **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



### **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 **"Programming for everybody(Getting started with python)"**,**University of Michigan**, May 2020.

### **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.

