



Dr. R.HELEN, M.E., Ph.D
HOD/BME, SEC

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HIGHLIGHTS:

- Number of Journal Publications:35
- H-Index:6
- Project Funding Received:-
- Patents Published:2
- Patents Granted:-

PROFESSIONAL LINKS:

- Scopus ID: 38661153900
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=38661153900>
- Google Scholar ID: <https://scholar.google.com/scholar?scilib=1&hl=en>
- AICTE Faculty ID: 486806073
- Anna University Supervisor ID: 2740101
- LinkedIn: <https://www.linkedin.com/in/dr-helen-r-07227577/>

AREA OF SPECIALIZATION:

- Medical Electronics
- Signal and image processing
- VLSI design and FPGA

PROFESSIONAL BACKGROUND:

Work Experience: 25 Years

- **Professor & Head, Dept of BME, Saveetha Engineering College, Chennai**
05/2023 – Present
- **Assistant Professor, Dept of EEE, Thiagarajar college of Engineering, Madurai**
07/2006 - 05/2023
- **Lecturer, Sri Sairam Engineering College, Chennai**
06/2003 - 07/2006

- **Lecturer**, Thangavelu Engineering College, Chennai
06/2000 - 06/2003

Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No	Name of Award	Awarding Agency	Year
1	Cambridge International Certificate	University of Cambridge	2012

Research Supervision:

Sl. No	Status	Number of Scholars
1	Ph. D Awarded	1
2	Ph. D thesis report received	0
3	Ph. D ongoing	2

List of Publications:

Publications (*List of papers published in SCI and Scopus Journals, in year wise descending order*).

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1.	Helen R., Thenmozhi T., Vijay M.	An Investigation on Motor Imagery EEG Classification Using Random Forest Algorithm	Lecture Notes in Networks and Systems 1834 LNNS	1834	81-95	2026
2.	Helen R., Madesh R., Riyaz Mohammed R.	An Automated Framework for Bone Health Analysis	Lecture Notes in Networks and Systems 1614 LNNS	2	509	2026
3.	Helen R., M Sangeetha, T Thenmozhi	Brain Tumor Detection Using Multimodel Convolutional Neural Networks.	Lex Localis: Journal of Local Self-Government	23		2025
4.	R Helen, T Thenmozhi, S Mythili, N Raghavan	Classification Analysis of Motor Imagery EEG Signals Using Bidirectional LSTM Model	Lecture Notes in Electrical Engineering (LNEE)	1264	159–173	2025

5.	Thenmozhi, T., Helen, R.	Classification of Motor Imagery EEG with Ensemble RNCA model	Behavioural Brain Research, Impact Factor: 2.6	476	115345	2024
6.	Thenmozhi, T., & Helen, R.	Feature Selection Using Extreme Gradient Boosting Bayesian Optimization to upgrade the Classification Performance of Motor Imagery signals for BCI	Elsevier Journal of neuroscience methods, Impact factor: 3	366	109425	2022
7.	Azmitha S, R. Helen	Decentralized ANFIS Control of Microgrid for Electric Vehicle Charging Station	International Journal of Industrial Electronics and Electrical Engineering (IJIEEE)	Volume- 10,Issue-9 (Sep, 2022)		2022
8.	Thenmozhi, T., Helen, R.	An Improved Approach for Extracting Features and Classifying Motor Imagery EEG Signals Through Machine Learning	Lecture Notes in Electrical Engineering	700	759–766	2021
9.	Suganya, R., Kavitha, D., Helen, R.	An effective way of improving the course outcomes by using jigsaw technique in core courses of engineering	Journal of Engineering Education Transformations	33(Special Issue)	397–401	2020
10.	Dr.R.Helen,	Artificial Pancreas Based on Model Predictive Control	ARPJ Journal of Engineering and Applied Sciences	10	12	2015
11.	Dr.R.Helen and A. Nargis Banu	Finger Vein Biometric Information Authentication System Using Modified Genetic Algorithm	International Journal of Applied Engineering Research	Vol.9, N0.24	27493-275 06	2014
12.	R Helen, N Kamaraj	CAD Scheme To Detect Brain Tumour In MR Images Using	Journal Electrical Engineering Technology	10		2014

		Active Contour Models And Tree Classifiers				
13.	R.Helen, N.Kamaraj, Vishnupriya,	MR Brain Image Segmentation based on Markov Random Field with the Application of ACO	International Journal of Current Engineering and Technology	Vol. 2, No. 4,		2012
14.	R.Helen, N.Kamaraj	“An Efficient Lung Emphysema Detection in CT Datasets using Combined GA and Support Vector Machine	European Journal of Scientific Research	Vol. 84, Issue 2		2012

Patent:

1.Ms K Nivedha Vaanathi 2. Mr P M Nivas 3.Mr M Yuvaraja 4.Dr Ashok Kumar B 5.Dr K Selvi **6.Dr R Helen**, “Human Stress Monitoring System” Published

2. **Dr.R.Helen**, Dr.M.Prabhakar, “ IOT enabled smart Tablet vending machine”.(Filed)

Books/Reports/Chapters/General articles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
1.	Development and Investigation of CAD schemes to detect lung emphysema and Tumor in MR brain images	Dr.R.Helen, Dr.N.Kamaraj	Lap Lambert Academic Publishing, Germany, ISBN 978-3-659-97309-3,	Sep. 2016

Conferences:

1. Ilayaraja R, **Helen R**, “Analysis and segregation of Corn seed using machine vision”, 2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS 2024), Sri Sairam Engineering College Chennai, 2024.
2. R., Ilayaraja, R., R., Sujith, R., V.S., Ganapathy, V. S., R., **Helen, R.**, “Enhancing Blood Glucose Monitoring Through Integrated Defected Ground Structure and Radio Frequency Techniques”, 2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS 2024), Sri Sairam Engineering College Chennai, 2024.
3. Narmadha P, Indhuja S U, Bhavadharani V, **Helen R** "Preterm Birth Prediction Using Machine Learning", 7th International Conference on Inventive Computation Technologies, Nepal, 2024.
4. Praveena R, Adhityan N, **Helen R**, Mary Adline Priya M, “Brain Cancer Segmentation in MRI using Fully Convolutional Network with U-Net Model”, 5th

International Conference on Innovative Trends in information Technology, IIIT Kottayam, India, 2024

5. **R Helen**, G Gurumoorthy, S R Thennarasu, P Rohan Sakthivel, "Prediction of Osteosarcoma using Binary Convolutional neural network: A Machine Learning Approach", Second International Conference on Emerging Trends in Information Technology and Engineering (ICETITE), 2024
6. **Helen R**, Thenmozhi T, Mythili S, Raghavan N, Griharan S, "Classification Analysis of Motor Imagery EEG Signals Using Bidirectional LSTM Model", International Conference on Advances and Applications of Artificial Intelligence and Machine Learning, 2023
7. **Helen R**, Sindhuja R, Mounika, V. Sharmila, "Detection and Classification of Diabetic Retinopathy by Fuzzy based Decision-Making System" 2nd International Conference on Automation, Computing and Renewable Systems ICACRS 2023
8. Kiran R, Sachin V, **Helen R** "Impact of Exoskeleton Assistive Device for Physically Challenged and Elderly Patient for Rehabilitation Process", 3rd International Conference on Innovative Mechanisms for Industry Applications, 2023
9. Sridhar T, Vijayaragavan D, **Helen R** "Speech Emotion Analysis using LSTM Architecture", 3rd International Conference on Innovative Mechanisms for Industry Applications, 2023
10. **Helen R**, Sridharan T, Vaitheswaran S, "A Comprehensive Analysis of Implementing Convolutional Neural Networks (CNN) and InceptionV3 for Early-Lung Cancer Detection", International Conference on Mobile Computing and Sustainable Informatics (ICMCSI 2024)
11. Lokesh.S, Bernatsha Sam.W, **R.Helen**, Brain Tumor Classification in MRI Images: A CNN and U-Net Approach, Springer International Conference on Multi-Strategy Learning Environment ICMSLE-2024.
12. **Helen R**, Nikei Antony Miekle A, Thenmozhi T, Suhail Ahmed A, Aravindh R, "Detection of Sensors Fault using Singular Value Decomposition Technique in Power Plant", IEEE International Conference on Self Sustainable Artificial Intelligence Systems, pp 1693, 2023
13. **Helen, R.**, Karthika, P., Selvakumar, R., Thenmozhi, T." Smart bin and intelligent waste segregator using IoT" Proceedings - 4th International Conference on Smart Systems and Inventive Technology, ICSSIT 2022, 2022, pp. 125–131
14. **Helen R** , Thenmozhi T , Nithya Kalyani R , Shanmuga Priya T "Fruit Recognition and Freshness Detection Using Convolutional Neural Networks" 4 th International Conference on Machine Intelligence and Signal Processing, March 12th - 14th, 2022
15. T.Thenmozhi **R.Helen**, "An improved approach for extracting features and classifying motor imagery EEG signals through machine Learning", International Conference on Automation, Signal Processing, Instrumentation and Control (iCASIC-2020), February 2020 at Vellore Institute of Technology
16. R.Abirami Shrinitha, **Dr.R.Helen**, FPGA Implementation of MRI image and tumor characterization using Xilinx system generator, International conference On Energy, Environment, Engineering 2016.
17. **Dr.R.Helen**, S.Gopinath, BCI system to classify EEG Stimulus pattern, IEEE Sponsored 3rd International on Innovations in Information Embedded and Communications Systems, 17th - 18th march 2016

18. C.Meena Priya, **Dr.R.Helen**, Modeling and control of Cardio vascular System with Rotary Left Ventricular Assist Device, International conference On Energy, Environment, Engineering, 151,2016
19. **Helen, R.**, Thenmozhi, T. "ECG Features extraction using Hilbert Transform" Proceeding of the National Conference on Bioelectronics, Biomaterials and Medical Devices, SSN College of Engineering, March 2013
20. **R.Helen** MR Image Segmentation Based On Markov Random Field With Application Of GA,NCICCA ,2012
21. **R.Helen** Segmentation of Articular Cartilage from MRI using wavelets and watershed algorithm, TIMA 2011
22. **R.Helen** Segmentation of pulmonary parenchyma in CT lung images based on 2D Otsu algorithm, ICETECT 2011 ,536-542, 2011
23. **R.Helen** Dr.S.Mary Raja Slochanal , Segmentation of MRA using advanced Otsu algorithm and Region Growing Approach using Multi Thresholding Method ,National Conference on Advanced Computing and Applications , PSG Tech. , Coimbatore. ,2009
24. **R.Helen** Dr.N.kamaraj , Musculoskeletal MRI Image Segmentation by Histogram Thresholding Using Fuzzy Measure ,International conference on signal, systems and communication , CEG, Chennai. ,2009

Memberships in Professional Associations:

- Lifetime member in Indian Society for Technical Education.
- IEEE member

Special/Guest Lectures Delivered: 15

Seminars/Conference/Schools/workshops

- a) **Organized: 20**
- b) **Attended: 59**