



**Dr. R.HELEN, M.E., Ph.D**  
**Professor & Head of the Biomedical Engineering**

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**Professional Summary:**

- 23 years of extensive teaching experience in various institutions.
- No. of Journal Publications:32, Patent Published:2
- Recognized Research Supervisor under Anna University, Chennai.
- CDIO and OBE Based curriculum and syllabus designer
- Organized Inter college and Intra College activities
- Proficient in developing research-oriented skills in students and provide them a growing path in research activities.
- Holding publications in foremost journals and conferences.
- h-index – 5; Total Citations – 101
- Reviewer for eminent journals in Medical Electronics specializations.

**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>
- Anna University Faculty ID:
- 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: 23 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	1

### 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.	Thenmozhi, T., Helen, R.	Classification of Motor Imagery EEG with Ensemble RNCA model	Behavioural Brain Research, Impact Factor: 2.6	476	115345	2024
2.	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
3.	Thenmozhi, T., Helen, R.	An Improved Approach for Extracting Features and Classifying	Lecture Notes in Electrical Engineering	700	759–766	2021

		Motor Imagery EEG Signals Through Machine Learning				
4.	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
5.	Dr.R.Helen,	Artificial Pancreas Based on Model Predictive Control	ARPJ Journal of Engineering and Applied Sciences	10	12	2015
6.	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	27493-27506	2014
7.	R Helen, N Kamaraj	CAD Scheme To Detect Brain Tumour In MR Images Using Active Contour Models And Tree Classifiers	Journal Electrical Engineering Technology	10		2014
8.	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
9.	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
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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
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### Conferences:

1. Narmadha P, Indhuja S U, Bhavadharani V, **Helen R** "Preterm Birth Prediction Using Machine Learning", 7th International Conference on Inventive Computation Technologies, Nepal, 2024. (Accepted)
2. 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
3. **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
4. **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
5. **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
6. 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
7. Sridhar T, Vijayaragavan D, **Helen R**" Speech Emotion Analysis using LSTM Architecture", 3rd International Conference on Innovative Mechanisms for Industry Applications,2023
8. **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)
9. 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.
10. **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

11. **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
12. **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
13. 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
14. 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.
15. **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
16. 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
17. **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
18. **R.Helen** MR Image Segmentation Based On Markov Random Field With Application Of GA,NCICCA ,2012
19. **R.Helen** Segmentation of Articular Cartilage from MRI using wavelets and watershed algorithm, TIMA 2011
20. **R.Helen** Segmentation of pulmonary parenchyma in CT lung images based on 2D Otsu algorithm, ICETECT 2011 ,536-542, 2011
21. **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
22. **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.

### **Special/Guest Lectures Delivered: 12**

### **Seminars/Conference/Schools/workshops**

- a) **Organized: 15**
- b) **Attended: 55**