Dr.R.Raja Sudharsan, B.Tech., M.Tech., Ph.D
Associate Professor and Department of Electronics and Communication Engineering
Velammal College of Engineering and Technology, Madurai
e-Mail Id: rrs@vcet.ac.in

Educational Qualification:

Course	Institution	Year of Passing	Marks in % / CGPA
Ph.D (VLSI and Signal Processing)	Kalasalingam Academy of Research and Education	Feb 2022	Awarded
M.Tech. (VLSI Design)-University First Rank (Gold Medalist)	Kalasalingam University	May 2017	9.03
B.Tech (Honors)-ECE	Kalasalingam University	May 2015	8.38

Experience in Years: 8 years

Employment History:

- Currently Working as an Associate Professor at Velammal College of Engineering and Technology, Madurai from Febraury 2025.
- Worked as a Associate Professor and Head, at Sri Shanmugha College of Engineering and Technology from October 2022 to Febraury 2025
- Worked as an Assistant professor at M.Kumarasamy College of Engineering from October 2021 to October 2022.
- Worked as a JRF at Closerlook closerlook digital software services pvt.ltd from August 2018 to August 2021.
- Worked as an Assistant Professor at K.L.N. College of Information Technology from June 2017 to June 2018.
- Worked as a Teaching Assistant (Part-Time) at Kalasalingam University from June 2016 to May 2017.

Interested Research Areas: VLSI, Signal & Image Processing, Optimization Algorithms

Scholarships and Awards received:

- Received a **Research Fellowship** from **INTI International University, Malaysia** in 2025.
- Received **Best Researcher Award** from **ScienceFather Academy** for Publishing the Work on **Neuropathy and Myopathical Disorders** in 2021.

Funded Research Projects:

Funding Agency: Entrepreneurship Development Innovation Institute, Tamilnadu

Scheme: Innovation Voucher-A

Title: A Pamphlet sized Electromyography for detecting Nerve Disorders

Sanctioned Amount: Rs.1,84,200

Year: 2022

Principal Investigator(PI): Dr.R.Raja Sudharsan

Funding Agency: Department of Science and Technology, New Delhi

Scheme: Nidhi

Title: Design and Development of Low cost Photomotograph for Identification of Thyroid Dysfunction

Sanctioned Amount: Rs.10,00,000

Year: 2019

Principal Investigator(PI): Dr.R.Raja Sudharsan

Patent rights received:

- Received a UK Design Patent Grant on "Portable Device for Measuring Nerve Damage Due to Diabetic Neuropathy" Patent ID:6371565
- Received a UK Design Patent Grant on "Dialysis Chair" Patent ID: 6374048

Patent Publications:

- Published a Indian patent on "Implementation of Advanced Theranostics for The Central Nervous System and Neurological Disorders using Functional Inorganic Nanomaterials" Patent id:202231075449 A
- Published a Indian patent on "Remodelling of Phenotyping Root Zone and Moisture Level Analysis" Patent id: 202341034716

Publications Details:

- Subramanian, R. R., Venkatesh, K., Manikumar, T., **R.Raja Sudharsan** & Aravindrajan, V. SHAPE: Design and Evaluation of a Transformative Model for Engineering Education. Journal of Engineering Education Transformations, Volume No 38, December 2024 **(Scopus Indexed)**
- Murugesan, Rajadurai, Srikanth Holalu Venkataramana, Siva Marimuthu, Praveena Bindiganavile Anand, Santhosh Nagaraja, J. Samson Isaac, **R. Raja Sudharsan et al. "**Influence of Alloying Materials Al, Cu, and Ca on Microstructures, Mechanical Properties, And Corrosion Resistance of Mg Alloys for Industrial Applications: A Review." ACS omega 8, no. 41 (2023): 37641-37653. **Impact Factor: 4.1 (SCI Indexed Journal)**
- S.Suresh Pungaiah, Kuldip Kumar Sahu, R.Yuvaraja, G.Jayahari Prabhu, **R.Raja Sudharsan**, P.Thamizhvalavan, Kiran Ramaswamy. **"**Investigation on Mechanical Behaviour of LM6 Aluminum Alloy Hybrid Composites Processed Using Stir Casting Process**",** Advances in Materials Science and Engineering, Hindawi, 2022. **Impact Factor: 1.27 (SCI Indexed Journal)**

- **R. Raja Sudharsan,** J. Deny, E. Muthukumaran and S. Chitra Selvi. “Design, Implementation and Estimation of MFCV for 4-Different Positions of Human Body using FPGA”, Microelectronics Journal, Elsevier, 2020. **Impact Factor: 1.605 (SCI Indexed Journal)**
- **R. Raja Sudharsan**, J. Deny, E. Muthukumaran, and R. Varatharajan. "FPGA based peripheral myopathy monitoring using MFCV at dynamic contractions." Journal of Ambient Intelligence and Humanized Computing, Springer 2020. Impact Factor: 7.104 (SCI Indexed Journal)
- **R. Raja Sudharsan**, J. Deny, E. Muthu Kumaran, and A. Sharon Geege. "An Analysis of Different Biopotential Electrodes Used for Electromyography,” Journal of Nano- and Electronic Physics, 2020.**(Scopus Indexed Journal)**
- Deny, J., **R. Raja Sudharsan**, and E. Muthu Kumaran. "An orbicularis oris, buccinator, zygomaticus, and risorius muscle contraction classification for lip-reading during speech using sEMG signals on multi-channels." International Journal of Speech Technology, Springer 2021: 1-8. **(Scopus Indexed Journal)**
- R.Raja Sudharsan (2024, August). Deep learning-based pneumonia classifier on chest X-ray images. In AIP Conference Proceedings (Vol. 3161, No. 1). AIP Conference Proceedings. **(Scopus Indexed)**
- **R.Raja Sudharsan** et.al.,. (2024). LeafNet: Design and Evaluation of a Deep CNN Model for Recognition of Diseases in Plant Leaves. In: Chouhan, S.S., Singh, U.P., Jain, S. (eds) Applications of Computer Vision and Drone Technology in Agriculture 4.0. Springer, Singapore. **(Scopus Indexed)**
- **R.Raja Sudharsan** et.al.,. (2024). Leveraging Smart Sensing for Proximity Analysis. In International Conference on Intelligent Electrical Systems and Industrial Automation (pp. 313-324). Singapore: Springer Nature Singapore. **(Scopus Indexed)**
- **R. Raja Sudharsan**, and J. Deny. "Field Programmable Gate Array (FPGA)-Based Fast and Low- Pass Finite Impulse Response (FIR) Filter." In Intelligent Computing and Innovation on Data Science, Lecture Notes in Networks and Systems, Springer, Singapore, 2020. **(Scopus Indexed)**
- J. Deny, and **R. Raja Sudharsan**. "Block Rearrangements and TSVs for a Standard Cell 3D IC Placement." In Intelligent Computing and Innovation on Data Science, Lecture Notes in Networks and Systems, Springer, Singapore, 2020. **(Scopus Indexed)**
- R. Raja Subramanian, T. M. DheenaDayalan, T. Badhrirajan, C. Dhinakaran, C. Glory Devakirubai,
- P. M. Pavithra, M. Balakrishnan, A. Anandaraj, M. Ramya and **R. Raja Sudharsan,** "An IoT Based Electromyography Signal Transmission from sEMG Electrodes to Client's Server with ICT Infrastructure," *2024 10th International Conference on Advanced Computing and Communication Systems (ICACCS)*, Coimbatore, India, 2024, pp. 510-514, doi: 10.1109/ICACCS60874.2024.10717233.
- **R. Raja Sudharsan. "**An Automated House Plan Generator leveraging Genetic Algorithms.**"** In 2021 International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation (ICAECA), pp. 1-6. **IEEE, 2021. (Scopus Indexed)**
- R. Raja Sudharsan, “Assessment and Measurement of Vital Signs of Human Beings using IoT Architecture” 3ciencies. **(Web of Science).**
- R. Raja Subramanian, Harini Mohan, Ketepalli Poojita Lakshmi Syamala, Chunduri Sandya Niharika, Ede Venkatesh, **R. Raja Sudharsan. "**Forensic Verification of Handwritten Documents using Secure Multi Party Computation" In 2021 International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation (ICAECA), pp. 1-6. **IEEE, 2021. (Scopus Indexed)**

- J. Deny, P. Rajalakshmi, V. Muneeswaran, **R. Raja Sudharsan**, P Nagaraj. **"**Automation of Glucose Control for Type-2 Diabetes Mellitus"**,** IEEE International Conference on Electronics and Sustainable Communication Systems, IEEE Xplore, 2022 **(Scopus Indexed)**
- J. Deny, M Sundararajan, **R. Raja Sudharsan**, E. Muthu Kumaran and B Perumal, "Reduction of speckling noise of SAR Images using Dual Tree Complex Wavelet (DTCW) and Shearlet Transforms". European Union Digital Library, 2021.
- J. Deny and **Raja Sudharsan R, "**Recognition of Tumours in Human Cerebrum", European Union Digital Library, 2021.
- **R. Raja Sudharsan**, "Synthesis of FIR Filter using ADC-DAC: A FPGA Implementation**",** In 2019 IEEE International Conference on Clean Energy and Energy Efficient Electronics Circuit for Sustainable Development (INCCES), IEEE Xplore. **(Scopus Indexed)**
- R. Raja Subramanian, Manchala Yaswanth, Bala Venkata Rajkumar TS, Kota Rama Sai Vamsi, Devisetty Mahidhar, **R. Raja Sudharsan. "**Musical Instrument Identification using Supervised Learning." In 2022 6th International Conference on Intelligent Computing and Control Systems (ICICCS), pp. 1550-1555. **IEEE, 2022. (Scopus Indexed)**
- R. Raja Subramanian, Marisetty Sai Murali, B. Deepak, P. Deepak, Hamsinipally Nikhil Reddy**, R. Raja Sudharsan.** "Airline Fare Prediction Using Machine Learning Algorithms." In 2022 4th International Conference on Smart Systems and Inventive Technology (ICSSIT), pp. 877-884. **IEEE, 2022. (Scopus Indexed)**
- B.Perumal, J.Deny, **R. Raja Sudharsan**, E. Muthukumaran, R. Raja Subramanian. "Analysis of Amplify Forward, Decode and Amplify Forward, and Compression Forward Relay for Single and Multi-node Cognitive Radio Networks", European Union Digital Library, 2021.
- R.Radeep Krishna, P.Siva Kumar, **R.Raja Sudharsan,** "Optimization of Wire-Length and Block Re-Arrangements for a Modern IC Placement Using Evolutionary Techniques", IEEE International Conference on Intelligent Techniques in Control, Optimization & Signal Processing(INCOS) and published in IEEE xplore. **(Scopus Indexed)**
- P.Sivakumar, R.Radeep Krishna, **R.Raja Sudharsan,** "Review on positioning and Numbering of TSVs in 3D IC Placement", Proceedings of National Conference on VLSI Design and Signal Processing NCVSP'16.
- P.Sivakumar, R.Radeep Krishna, **R.Raja Sudharsan**, "A Survey on Stress Variation in 3D IC Placement", Proceedings of National Conference on VLSI Design and Signal Processing NCVSP'16.
- P.Siva Kumar, R.Radeep Krishna, **R.Raja Sudharsan**, **"**Wire length and Area Reduction of ISPD-98 Benchmark Using Parallel Genetic Algorithm in Modern VLSI Chip Placement", International Journal of Advanced Information Science and Technology, Vol 34, pp. 48-51.
- R.Radeep Krishna, P.SivaKumar, R.Raja Sudharsan, "White space allocations and wire-length aware standard cell 3D IC placement using hybrid algorithm" , International Conference on Advanced Computing and Communication Systems (ICACCS), January 2017.
- R.Radeep Krishna, P.Siva Kumar, R.Raja Sudharsan, **"**Block re-arrangements of vertically stacked IC placement", International Conference on Advanced Computing and Communication Systems (ICACCS), January 2017.

Google Scholar report:

https://scholar.google.co.in/citations?user=FygqGpAAAAAJ&hl=en

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Citations	219	219
h-index	10	10
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