

Dr. R. Arthi M.Tech., Ph.D.,

Associate Professor,

Department of ECE,

College of Engineering and Technology,

SRM Institute of Science and Technology

Ramapuram Campus, Chennai.

arthir2@srmist.edu.in



Dr. R. Arthi working as an Associate Professor in the Department of ECE at SRMIST, Ramapuram. She has obtained her Ph.D in Information and Communication Engineering from Anna University, Chennai, India. She has graduated her M.Tech in Digital Communication from BMS College of Engineering, Bangalore, India. She had her B.E in Electronics and Communication Engineering from Periyar Maniammai college of Technology for Women, Thanjavur, India. She has 24 years of Teaching experience that includes Research and Industrial Experience. She has been extensively involved in research works and published more than 40 papers in International/National level conferences and reputed journals and 3 International Innovation patents also added to her credit.

Areas of Research:

Wireless Networks, Medical Imaging, Artificial Intelligence, Quantum Computing.

Selected Publications: (Scopus / WoS / SCIE)

1. A. Saravanan, Manoj Kumar. D, Arthi R, “A state-of-the-art approach for Dental Diagnosis using Machine Learning Assessment: A short communication”, SRM Journal of Research in Dental Sciences, vol 14, No 2, pp:102-104, June 2023. https://DOI: 10.4103/srmjrds.srmjrds_55_23.
2. N. MaheshKumar, R.Arthi, S. Krithika, “Block Chain Based Underwater Communication Using Li-Fi and Eliminating Noise Using Machine Learning” In Jordan Journal of Electrical Engineering. Vol 9, No. 2, pp:166-174, June 2023. <https://DOI: 10.5455/jjee.204-1670228110>.
3. Srisabarimani Kaliannan, Arthi Rengaraj, Alex Prabhu Daniel, “A Novel Fusion Approach to Detect Brain Tumor Using Machine Learning for MRI Image” In Traitement du Signal, <https://doi.org/10.18280/ts.390430>.
4. Arthi R, Nayana J S, Rajarshee Mondal, “Real-Time Optimal Protocol Prediction of Quantum Key Distribution Using Machine Learning” In International Journal of Pervasive Computing and Communications, <https://doi.org/10.1108/IJPCC-05-2022-0200>.
5. Manoj Kumar. D, Arthi. R, Aravindhnan .C, AjinRoch. A, Priyadarsini. K, Deny J, “Traffic Congestion Control Synchronizing and Rerouting Using LoRa” In Elsevier, Microprocessors and Microsystems, Published online on 22nd Jan 2021, <https://doi.org/10.1016/j.micpro.2021.104048>.

6. R. Arthi, Jagpathi Babu, Aditya Tumma, Akshay Kumar, "Queue Stability and low Energy for Energy Harvesting Cognitive Radio Networks," IJEEE, International Journal of Electrical Engineering Education, 2019, ISSN: 2050-4578, Vol. 56(4) 338–347, DOI: 10.1177/0020720918808801.
7. R. Arthi, G. Ramya, P. Suresh, K. Murugesan, T. Ramya, "Power Quality Improvement using PV Coupled Non-Isolated Quasi Z Source Inverter" for WSEAS Transactions on Power Systems, ISSN: 2224-350X, vol. 17, pp.62-67, DOI: 10.37394/232016.2022.17.7
8. Arthi R, Manojkumar D, Aksa Abraham, Allada Rahul Kishan, Alekhya Sattenapalli, "Deep Learning Based Multi-Modal Biometric Security System Using Visible Light Communication", for WSEAS Transactions on Systems and Control, ISSN: 2224-2856 vol. 17, pp. 34-41, 2022. DOI: 10.37394/23203.2022.17.4
9. R. Arthi, R. Akash, S.U. Bhaskar, K. Shahul Hameed, Sagar Mrinal, Ishiva Shreya, "Low Cost with vibration controlled Efficient Fused Deposition Modeling", International Journal of Engineering and Advanced Technology (IJEAT), ISSN: 2249 – 8958, pg no.1690-1694, Volume-8 Issue-6, August 2019.
10. Yadlapalli Priyanka, R. Arthi, "Multi-relay Antennas for Energy Harvesting Cognitive Radio Networks using Energy-Assisted Decode Forward Method", International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, pg no.388-392, Volume-8 Issue-10, August 2019.
11. Vamshi Krishna Namani, Arthi. R, "Zadoff-chu sequence-based preamble design of FBMC/OQAM for 5G," IJET, International Journal of Engineering & Technology, ISSN: 2227524X, April 2018, vol. 7, No.2.12, pp.193-197.
12. R. Arthi, P. Devaraj, K. Murugan, "RSS based localization of sensor nodes by Learning Movement Model" WSEAS Transactions on Communications, E-ISSN: 2224-2864 November 2013, vol. 12, Issue 11, pp. 559-569.

Patents:

1. Patent number: 2021100214 (Australian Innovation Patent)
 Title of invention: **IoT and Machine Learning based Building Energy Management System (iBEMS)**
 Name of inventor(s): Bhoi, Akash Kumar; Mallick, Pradeep Kumar; Bisoy, Sukant Kishoro; Priyadarshi, Neeraj; Chae, Gyoo Soo; Mishra, Subhashree; R, Arthi; Kaur, Inderpreet; Jha, Ajeya; Mohammed, Imran Sharieff and A, Jagadeeshwaran
2. Patent number: 2021100300 (Australian Innovation Patent)
 Title of invention: **Machine Learning-based Smart Workout System**
 Name of inventor(s): Sharma, Ashis; Mallick, Pradeep Kumar; Dhal, Sunil Kumar; Mishra, Sambit Kumar; Chae, Gyoo Soo; A., Ambikapathy; S., Saravana Kumar; R., Arthi; Basa, Santi Swarup; Govindharaj, Arun prasad; Muthyala, Raju and G., Bhasker
3. Patent number: 2021100437 (Australian Innovation Patent)
 Title of invention: **Machine Learning Based Smart Water Purifier and Dispenser**

Name of inventor(s): Priyadarshi, Neeraj; Bhoi, Akash Kumar; Mallick, Pradeep Kumar; Panda, Mohit Ranjan; Nayak, Soumya Ranjan; E., Rajesh Kumar; Chae, Gyoo Soo; Kaur, Inderpreet; R., Arthi; Mahapatra, Satyasundara; G., Bhasker and Muthyala, Raju .

4. Patent number: 202141061531

Title of invention: Thermal Imaging for snake detection- living things detection using thermal imaging in Agricultural field.

Journal Editorial Member

- Guest Editor for Scopus Indexed Computer Assisted Methods in Engineering and Sciences. "Call for Papers on Information Theory with Artificial Intelligence in 5G/6G Networks" (<https://comes.ippt.pan.pl/index.php/comes/issue/view/79>)

Funded Project

1. Received **Tamil Nadu State Council for Science and Technology (TNSCST) – Student Project Scheme (SPS) 2022 -2023** for the Student Project entitled “Smart Agri Sensor” (AS-910) with a grant of Rs.7500/- on March 3rd 2023.
2. Study about the Practical Functioning of Existing Traffic Light System – The Joint Commissioner of Police (Road Safety), Transport Department, Chennai Traffic Police, Chennai. (2019 - 2020)

Books Published:

1. **Deep Learning Trends and Technique in Medical Image Processing:** Dr. Vijaya Karthik S.V., Mr. P. Rajasekar, Prof. Mrunalini Buradkar, Dr.R.Arthi. (Scientific International Publishing House, ISBN: 978-93-94002-98-2)
2. **Biometric Systems:** Dr. R. Arthi, Dr. G. Ramya, Dr. M. Vidhyalakshmi, Dr. D. Manoj Kumar. (Scientific International Publishing House, ISBN: 978-93-94002-76-0)

Keynote Speaker

- 1 Keynote Speaker for “**International Conference on Industry 4.0 and Artificial Intelligence Technologies (INAIT 2019)**”, held from August 19-20,2019 in Hughes Hall, University of Cambridge, United Kingdom and delivered a keynote talk on “Energy Harvesting in Industrial Wireless Sensor Networks”.
- 2 Keynote Speaker for “**2nd International Conference on Emerging Trends and Advances in Electrical Engineering and Renewable Energy (ETAEEERE-2020)**” on 5th and 6th March 2020 and delivered a keynote talk on “Energy Harvesting and Emerging Network Technologies in

Industrial Wireless Sensor Networks” held at Kalinga Institute of Industrial Technology (KIIT) Deemed to be University, Bhubaneswar, Odisha.

- 3 Keynote Speaker for “**3rd International Conference on Information Systems and Software Engineering**” scheduled on 23rd April 2021 (Online Mode) and delivered a keynote talk on “Role of Computer Vision to improve Software Engineering Tasks” held at Meenakshi Sundararajan Engineering College, Chennai.
- 4 Keynote Speaker for “**MAHSA International Conference on Industrial Revolution, Information and Communication Technology (MI-IRICT 2021)**” scheduled on 12th and 13th November 2021 (Online Mode) and delivered a keynote talk on “Internet of Things” held at MAHSA University, Malaysia.
- 5 Keynote Speaker for “**International Conference on Advances in Communications, Computing & Electronic Systems (ACCES-2022)**”, scheduled on 6th and 7th May 2022 (Online Mode) and delivered a keynote talk on “Advanced Research Applications using Machine Learning for Communication Networks” held at Avanthi Institute of Engineering and Technology in association with CITY University, Malaysia.

Guest Lectures

1. Acted as a **Resource Person** and delivered a Guest Lecture on “A Brief Note on New Bio-Inspirations and its importance in Bacterial Foraging Algorithm” towards Online Six Day FDP on 5th January 2023 organised by Dept of EIE, Easwari Engineering College, Chennai.
2. Acted as a **Resource Person** and delivered a Guest Lecture on “**Artificial Intelligence in Education**” towards Online Six Day AICTE-AU STTP on 11th February 2022 organised by Anna University Library, CEG Campus, Chennai.
3. Acted as a **Resource Person** and delivered a Guest Lecture on “**Deep Learning in Medical Imaging and Telemedicine**” for SRM Institute of Science and Technology, Ramapuram on 25th Jan 2022 organised by FET under Online Technology based Entrepreneurship Development Program (TEDP) sponsored by EDII and DST-NIMAT.
4. Acted as a **Resource Person** and delivered a Guest Lecture on “**Advanced Research Applications using Machine Learning for Communication Networks**” for Sri Sai Ram Institute of Technology, Chennai on 18th December 2021 organised under ISTE Sponsored One Week Faculty Development Programme on "Research Opportunities in Artificial Intelligence & Machine Learning".
5. Acted as a **Resource Person** and delivered a **Guest Lecture** on “**Deep Learning in Telemedicine**” for SRM Institute of Science and Technology, Kattankulathur, Chennai on 27th

August 2021 organised by Department of Biomedical Engineering towards Workshop on Robotics and AI in Healthcare.

6. Acted as a **Resource Person** and delivered a **Guest Lecture** on “**Deep Learning in Telemedicine**” for Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad on 5th August 2021 towards ATAL Sponsored FDP on “Artificial Intelligence impacts on Telemedicine”.
7. Acted as a **Resource Person** and delivered a **Guest Lecture** on “**Antenna Methodologies for Mobile Applications**” for Saveetha School of Engineering, Chennai on 6th July 2021 towards ATAL Sponsored FDP on “Wearable Devices & Antenna Technologies for IoT, Mobile & Telemedicine applications”.
8. Delivered a **Guest Lecture** on “**Image Segmentation**” for St. Joseph’s College of Engineering, Chennai on 10th June 2021 towards Online FDTP on EC8093 Digital Image Processing.
9. Delivered a **Guest Lecture** on “**Infant Brain Segmentation**” for Dept of IT, Easwari Engineering College, Chennai on 24th March 2021 towards National level FDP on Medical Image Processing using Artificial Intelligence – A Research Perspective.
10. Delivered a **Guest Lecture** on “**Deep Convolution Neural Network for Big Data Medical Image Classification**” for Dept of EIE, Easwari Engineering College, Chennai on 2nd March 2021 towards 5 days FDP on Recent Trends in Medical Image Processing.
11. Delivered a **Guest Lecture** on “**Network Simulators - 2**” for Dept of ECE, Meenakshi Sundararajan College of Engineering, Chennai on 12th November 2020.
12. Delivered a **Guest Lecture** on “**Deep Convolution Neural Network for Big Data Medical Image Classification**” for Dept of CSE, Meenakshi College of Engineering, Chennai on 9th July 2020.
13. Delivered a Guest Lecture on the Topics “**5G**” on Nov 8th 2018 and “**Industrial Wireless Sensor Networks**” on Nov 9th 2018 for Department of ECE students of St. Peter’s Institute of Higher Education and Research, Avadi, Chennai.

Awards & Appreciation

1. Won **2nd prize cash award on Project day and Open house 2023** held on March 9th and 10th in SRMIST Ramapuram campus for the project titled “Third Eye”.
2. Felicitated with **International Best Researcher Award 2022** in recognition for the journal paper published in Elsevier by ISSN International Research Awards (**IIRA-2022**) in association with **World Research Council** on June 4th 2022.

3. Felicitated with **Research Excellence Award 2021** in recognition for outstanding professional and research achievement in the field of ECE on Jan 20,2022 by Institute of Researchers, The research unit of ISPL, registered with Ministry of MSME, Govt. of India.
4. Won **Best Presentation / Best Content at the 2nd International Conference on Electronic System and Intelligent Computing(ESIC-2021)** held at Kalinga Institute of Industrial Technology (KIIT), Deemed to be University, Bhubaneswar, Odisha, India, on November 5th & 6th,2021 titled “Smart Segregation Bins for Cities Using Internet of Things” presented by Sri Sabarimani K, Arthi R, Soundarya S, Akshaya A, Mahitha M, Sruthi Sudheer.
5. Felicitated with **Nation Builder Best Teacher Award** on September 11th 2021 on by Rotary Club of Tambaram Central, Chennai under Rotary India Literacy Mission.
6. Certified **Women Ethic Committee Member** for Dhanwantralaya Ayurveda and Speciality Hospitals, Tambaram, Chennai.
7. Felicitated with **Academic Excellence Award- 2020** as Best Professor in ECE by Association of Management Professionals (AMP) Hyderabad powered by ID MBA on 27th December, 2020.
8. Won **Best Paper Award in the 2nd International Conference on Emerging Trends and Advances in Electrical Engineering and Renewable Energy(ETAEEERE-2020)** held at Kalinga Institute of Industrial Technology (KIIT), Deemed to be University, Bhubaneswar, Odisha, India, on March 5th & 6th,2020 titled “Automatic Threat Sensing and Monitoring System for Woman Safety - RAKSHAK” presented by Shivam Pandey, Rahul Kumar Barik, Somya Gupta, Dr.R. Arthi from Department of ECE, SRMIST, Ramapuram, Chennai.
9. Won **3rd prize cash award on Project day and Open house 2020** held on Jan 9th and 10th in SRMIST Ramapuram campus for the project titled “Automatic Threat Sensing and Monitoring System for Woman Safety - RAKSHAK” presented by Shivam Pandey, Rahul Kumar Barik, Somya Gupta, under the mentorship of Dr. R. Arthi from Department of ECE.

Professional Bodies:

Member – IETE, ISTE.

E- Profile

1. ORCID Profile: <http://orcid.org/0000-0001-9638-1634>
2. SCOPUS Author ID: 36138513700
<https://www.scopus.com/authid/detail.uri?authorId=57218552304>
3. Web of Science Researcher ID: J-7611-2019
<https://www.webofscience.com/wos/author/record/J-7611-2019>
4. LinkedIn Profile: <https://www.linkedin.com/in/dr-arthi-r-62320920/>