BIO-DATA

Dr. SRINIVASAN ARUCHMY Senior Scientist

Robotics & Automation Division

CSIR-Central Mechanical Engineering Research Institute

M. G. Avenue, Durgapur-713 209, India

Phone: +91 3436452228 (Office) E-mail: a srinivasan@cmeri.res.in

EDUCATION

- PhD in Computer Science and Engineering from National Institute of Technology, Durgapur, West Bengal, India in the area of 'Medical Image Processing using Deep Learning Techniques"
- M.E in Computer Science and Engineering from PSG College of Technology, Coimbatore, Tamil Nadu, India in 2006-2008
- B.E in Computer Science and Engineering from Amrita Vishwa Vidyapeetham ((Erstwhile: Amrita Institute of Technology and Science), Coimbatore, Tamil Nadu, India in 1999-2003

EXPERIENCE

- CSIR-Central Mechanical Engineering Research Institute (CMERI), Durgapur, India (from 2010 to till date)
 - Sr. Scientist, Robotics & Automation Division
- Wipro Technologies, Bangalore (from December 2008 to March 2010)
 Project Engineer
- Amrita Vishwa Vidyapeedham(Deemed University), Coimbatore (from 2004 to 2006) Lecturer, IT department.

AWARDS/ FELLOWSHIPS

- Awarded **Graduate Aptitude Test in Engineering (GATE) 2006** in Computer Science and Engineering conducted by the Indian Institute of Technology, Kharagpur, India
- Best Outgoing student Award from PSG College of Technology, Coimbatore in the year 2008.

RESEARCH PROJECTS

Involved (ongoing/completed) with the following projects:

1. "Design and development of a suite of sensors and their characterization for perimeter surveillance", (Ongoing)

Project Cost: 86.70 Lakhs

Sponsors: JC Bose Centre For Advanced Technology, DRDO

Role: Principal Investigator

2. "Development of Complaint Actuators with Mechanical Impedance Variability ",

(Ongoing)

Project Cost: 283.50 Lakhs

Sponsors: JC Bose Centre For Advanced Technology, DRDO

Role: Member

3. "Design and Devlopemnt of a 1kW Subsea Thrusters with 1500m Depth Rating",

(Ongoing)

Project Cost: 45.0 Lakhs **Sponsors**: Institute Project

Role: Member



4. "Design of a Smart Material based Soft Lower Limb Exoskeleton to Assist

Soldier",(Ongoing) **Project Cost**: 84.45 Lakhs

Sponsors: JC Bose Centre For Advanced Technology, DRDO

Role: Member

5. "Human guided impedance Control of coBotic arm" (HiCoBot) (Approved)

Project Cost: 37.0 Lakhs

Sponsors: Collarabitive research programme under DST - CNRS targeted programme,

2018/19

Role: Co-Principal Investigator

6. "Design and development of an unsupervised Network Surveillance system for Restricted

Entry Zones", (Completed)
Project Cost: 10 Lakhs
Sponsors: Institute Project
Role: Co-Principal Investigator

7. "Development of a Smart Vehicle Parking Slot Identification: An Internet of Things (IoT)

Approach"(Completed)
Project Cost: 10 Lakhs
Sponsors: Institute Project
Role: Co-Principal Investigator

8. "Development of a surveillance system for restricted areas", (Completed).

Sponsors: Institute Project **Role**: Co-Principal Investigator

9. "Robotic Intervention for Industrial and Strategic Applications", (Completed).

Sponsors: CSIR Major Lab Project

Role: Member

10. "Design and Development of Mob Control Vehicle", (Completed)

Sponsors: CSIR Major Lab Project

Role: Member

11. " Autonomous Underwater Robotics (UnWaR) ", (Completed)

Sponsors: CSIR Network Project

Role: Member

12. "Diabetic Retinopathy", (Completed)

Sponsors: CSIR Network Project

Role: Member

13. "Application of Shape Memory Alloy in Medical Devices for Minimally Invasive Clinical

solutions" (Completed)
Sponsors: Institute Project
Role: Principal Investigator

Courses Thought

- Computer Programming and Numerical Methods
- Machine Learning
- Data Mining and Artificial Intelligence

Mentorship

- Mrs. Debeshi Dutta PhD Co Supervisor
- MTech Thesis Guidance (3 Nos)
- Summer Interns Guidance from Indian Academy of Sciences (7 Nos)

Some Recent Publications

- 1. Srinivasan Aruchamy, Amrita Haridasan, Ankit Verma, Partha Bhattacharjee, Sambhu Nath Nandy, and Siva Ram Krishna Vadali. "Alzheimer's Disease Detection using Machine Learning Techniques in 3D MR Images." In 2020 National Conference on Emerging Trends on Sustainable Technology and Engineering Applications (NCETSTEA), pp. 1-4. IEEE, 2020.
- 2. Srinivasan Aruchamy, P. Battacharjee, Ananda Prasad, and Goutam Sanyal. "Brain MR image analysis using discrete wavelet transform with fractal feature analysis." In 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA), pp. 1660-1664. IEEE, 2018.
- 3. Srinivasan Aruchamy, Partha Bhattacharjee, and Goutam Sanyal. "Hardware based Brain MR Image De-Noising using Weiner filter with Discrete Haar Wavelet Transform." International Journal of Bio-Science and Bio-Technology 9, no. 2 (2017): 39-48.
- 4. Srinivasan Aruchamy, Ravi Kant Kumar, Partha Bhattacharjee, Goutam Sanyal"Automated skull stripping in brain MR images",2016 3rd International Conference on Computing for Sustainable Global Development (INDIACom).
- 5. Haldar, Ranaditya, Srinivasan Aruchamy, Anjali Chatterjee, and Partha Bhattacharjee. "Diabetic retinopathy image enhancement using vessel extraction in retinal fundus images by programming in raspberry pi controller board." In Int. Conf. Inter Discip. Res. Eng. Technol., vol. 20, no. 5, pp. 21-23. 2016.
- 6. Srinivasan Aruchamy, Partha Bhattacharjee, N Nanditha, Goutam Sanyal"Detection of Alzheimer's Disease in Brain MRI Using Fractal Analysis",International Journal of Control Theory and Applications 40, 275-283.
- 7. Srinivasan Aruchamy, Partha Bhattacharjee, and Goutam Sanyal. "Online Optic Disk Segmentation Using Fractals." International Journal of Biomedical and Biological Engineering 9, no. 3 (2015): 309-314.
- 8. Srinivasan Aruchamy, Partha Bhattacharjee, and Goutam Sanyal. "Automated glaucoma screening in retinal fundus images." Int J Multimed Ubiquitous Eng 10, no. 9 (2015): 129-136.
- 9. Roy Rukhmini, Srinivasan Aruchamy, and Partha Bhattacharjee. "Detection of retinal microaneurysms using fractal analysis and feature extraction technique." In 2013 International Conference on Communication and Signal Processing, pp. 469-474. IEEE, 2013.

PROFESSIONAL ACTIVITIES

- Member IEEE
- Faculty Guide for Summer Internship student in Indian Academy of Science.
- Asst Professor of Academy of CSIR (AcSIR), CMERI School of Mechatronics from 2018.