

Dr V M APARANJI

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Education

	Degree	Year	Institute	Specialization
1	Ph.D	2018	Visvesvaraya Technological University, Belagavi	Artificial Intelligence and Robotic Control
2	M.Sc (Engg) by Research	2010		Embedded Systems
3	B.E	2003	HMSIT, Tumkur	E&CE

Professional Experience

	Date (from-to)	Designation	Organization
1	1/1/2011 to Till date	Assistant Professor	Siddaganga Institute of Technology, Tumkur
2	16/8/2010 to 31/12/2010	Senior Lecturer	
3	16/8/2005 to 15/08/2010	Lecturer	
4	04/09/2004 to 30/06/2004	Lecturer (Temporary)	
5	17/09/2003 to 09/07/2005	Lecturer (Temporary)	

Awards and Honors

- Guided the UG students who won 'Best Project Award' for the project titled 'E-Secure Office' for the academic year 2023-24.
- Guided the UG students who won 'Best Project Award' for the project titled 'Intellectual Surveillance System' for the academic year 2022-23.
- Won the 'Best paper award' in an International Conference on Recent Developments in Mechanical Engineering (ICDRME 2022) held on 24th and 25th June 2022 for the paper titled 'Humanoid Motion Control using Auto Resonance Neural Network'

- Guided the final year UG students who won ‘Best Project Award’ for the project titled ‘Agritech Robot for Disease Detection’, in IEEE Annual Event Vaividhyam 22 organised by IEEE NKSS in Association with CASS Bangalore section and KLE Dr MSSCET held on 5th and 6th July 2022
- Received an amount of Rs 5000 for guiding the students projects titled ‘Fruit Harvesting drone’ from VTU, Belagavi during 2019-2020

Courses Taught

Undergraduate Courses

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|--|---|
| 1. Basic Electronics | 2. Embedded Microcontroller |
| 3. Control System | 4. Microcontroller & Applications |
| 5. Operation Research & Management | 6. Real Time Systems (VTU) |
| 7. Operations Research | 8. Real Time Operating Systems |
| 9. Microcontrollers | 10. Digital System Design Using VHDL |
| 11. ARM Processor | 12. Real Time Systems (Autonomous) |
| 13. Foundations of Electronics | 14. Embedded Systems |
| 15. Logic Design | 16. Digital System Design using Verilog |
| 17. Linear Algebra and its Application | 18. Applied Embedded Systems |
| 19. IoT Network Technology | 20. Analog and Digital Circuits |
| 21. Introduction to Internet of Things | 22. Universal Human Values, Social Connect and Responsibility |
| 23. Machine Learning | 24. System On Chip |
| 25. Artificial Neural Networks | |

Research Areas

- Machine Learning
- Artificial Intelligence
- Robotics
- Embedded Systems
- Internet of Things

Sponsored Projects

Ongoing Projects:

1. Title: Hybrid Robot for IoT based smart agriculture with AI/ML
Funding Agency: DBT
Amount: 50 Lakhs

Duration: 2 years

Role: Co-PI

Completed Projects:

1. Title: Neural Network Based Test Marks Reader and Acquisition System
Funding Agency: VTU, Belagavi
Amount: 2 Lakhs
Duration: 1 year
Role: Principle Investigator

Publications

Journals

- Aparanji V M, Veena Karjigi, "Detection of Fricatives in Continuous Speech Using Auto Resonance Networks", Circuits Systems Signal Processing, 2024
- Aparanji, V. M., & Patil, S. N. "Humanoid Motion Control using Auto Resonance Neural Network", Journal of Mines, Metals and Fuels, volume 71 issue 12, pp 2569- 2574, 2023.
- Vadanical Mathada Aparanji, Udayakumar Veerappa Wali, Ramalingappa Aparna, "Multi-Layer Auto Resonance Network for Robotic Motion Control", International Journal of Artificial Intelligence, Volume 18, Issue Number 1, pp 19-44, March 2020.
- V M Aparanji, Uday V Wali, and R Aparna, "Tunability of auto resonance network", International journal of Springer Nature Applied Sciences volume 2, Issue 5, pp 1-7, April 2020.

Conference Proceedings

- Aditi Joshi, Ashutosh Malviya, Jatin Sharma, Mayank, R Kumaraswamy, V M Aparanji, "Smart Healthcare Assistant", proceedings of 2025 3rd International Conference on Smart Systems for applications in Electrical Sciences (ICSSSES), Tumakuru, India, 2025, pp. 1-7, doi: 10.1109/ICSSSES64899.2025.11009275.
- Chaitanya M, Gurukiran M T, Guruprasad A S, Manjunath T M, V M Aparanji, "Ripeness Detection of Areca Nut Using GoogLe Net", proceedings of International Conference on Distributed Systems, Computer Networks and Cybersecurity (ICDSCNC), 2024
- Chaitanya M, Gurukiran M T, Guruprasad A S, Manjunath T M, V M Aparanji, "Ripeness Detection of Areca Nut Using AlexNet", proceedings of First International Conference on Software, Systems and Information Technology (SSITCON), 2024

- A. Siddique, K. N. Harikishan, M. Kaif, N. N. Gowda, V. M. Aparanji and S. Karthik, "Crop Prediction using NPK Sensor: Novel Approach Using Machine Learning Algorithms", proceedings of 2024 International Conference on Smart Systems for applications in Electrical Sciences (ICSSES), Tumakuru, India, 2024, pp. 1-6, doi: 10.1109/ICSSES62373.2024.10561287.
- Chaitanya M, Gurukiran M T, Guruprasad A S, Manjunath T M, V M Aparanji, "Ripeness Detection of Areca Nut Using VGG-16", proceedings of Distributed Computing and Optimization Techniques (ICDCOT), Bengaluru, India, 2024, pp. 1-5, doi: 10.1109/ICDCOT61034.2024.10515650.
- V M Aparanji and Veena Karjigi, "An Unsupervised Approach to Speech Segmentation using Auto Resonance Networks", proceedings of 2023 IEEE 3rd Mysore Sub Section International Conference (MysuruCon), IEEE Xplore digital library, 2023, DOI:10.1109/MysuruCon59703.2023.10396940
- Jamuar A, V M Aparanji, "Simulation of Terahertz Communication in Vehicular Network", proceedings of International Conference on Smart Systems for Applications in Electrical Sciences, ICSSES 2023, IEEE Xplore digital library, 2023, DOI: 10.1109/ICSSES58299.2023.10199665
- Kutre, T.J., Patil, S.N., Kore, S., Aparanji, V.M., "Advanced Architecture of Analog to Digital Converter Derived from Half Flash ADC", proceedings of International Conference on Distributed Computing and Optimization Techniques (ICDCOT-2021), Lecture Notes in Electrical Engineering, 2022, 903, pp. 141–151
- Patil N Sujata, S M Madiwalar and V M Aparanji, "Machine Learning Techniques to Improve the Success Rate in In-Vitro Fertilization (IVF) Procedure", IOP Conf. Series: Materials Science and Engineering, Volume 925, Pp 01-10, July 2020, DOI: 10.1088/1757-899X/925/1/012039
- U Pavithra, Sneha M R, Sagar Srivatsa S R, Ravichandra T, Aparanji V M, "OCR System for Automating Answer Script Marks using Auto Resonance Network", Proceedings of 2019 International Conference on Communication and Signal Processing (ICCSP). IEEE Xplore digital library, pp 0857-0861, 2019, DOI: 10.1109/ICCSP.2019.8698095
- V M Aparanji, Uday V Wali, and R Aparna, "Pathnet: A neuronal model for Robotic Motion Planning," Proceedings of 3rd International conference on cognitive, computing and information processing (CCIP 2017) Dec 15-16, 2017 at JSS Acad of Tech Ed., Bangalore. Springer CCIS 801, pp. 386–394, 2018, DOI: 10.1007/978-981-10-9059-2_34
- V M Aparanji, Uday V Wali, and R Aparna, "Automated Path Search and Optimization of Robotic Motion Using Hybrid ART-SOM Neural Networks," Proceedings of International Conference on Recent Advancement in Computer and Communication (IC-RAC-2017), Springer Lecture Notes in

Networks and Systems 34, pp 415-423, 2018, DOI: 10.1007/978-981-10-8198-9_43

- V M Aparanji, Uday V Wali, and R Aparna, "Robotic Motion Control using Machine Learning Techniques," Proceedings of 6th IEEE International Conference on Communication and Signal Processing (ICCSP 2017), IEEE Xplore digital library, pp 1241-1245, 2017, DOI: 10.1109/ICCSP.2017.8286579
- V M Aparanji, Uday V Wali, and R Aparna, "A Novel Neural Network Structure for Motion Control in Joints," Proceedings of International Conference on Electrical, Electronics, Communication, Computer and Optimization Techniques (ICEECOT 2016), IEEE Xplore digital library, pp 227-232, 2017, DOI:10.1109/ICEECOT.2016.7955220

Reviewer of Journal

- Expert Systems

Patents

- Filed for a patent titled "AI-Based Smart Healthcare Assistant Robot"

Invited Lectures, talks and workshops

- Resource person for the workshop on 'Introduction & Hands-on training on Python programming and IoT' from 20th and 21st Sept 2024 at SIT-AICTE IDEA LAB, Siddaganga Institute of Technology, Tumkaur.
- Resource person for TEQIP III AICTE-ISTE approved STTP on 'Artificial Intelligence and Machine Learning' 2nd to 6th July 2018 organized by Don Bosco College of Engg, Fatorda, Goa.
- Presented a technical talk on 'Evolution and Development of Controller Networks' in KLECE, Belgaum on 29/10/09 and 30/10/09.