

Faculty Profile

Brief Profile (Few Paragraphs)

Faculty Photo

Personal Information

- **Name:** Dr. Abhay Deshpande
- **Designation:** Associate Professor
- **Department:** Electronics and Communication Engineering
- **Email:** abhayadeshpande@rvce.edu.in
- **Phone:** 9980815636

Google Scholar: <https://scholar.google.com/citations?user=qksLmUUAAAAJ&hl=en>

Domain of Expertise

Research Focus

- **Primary Area:** Robotics, Control Engineering, Industrial Automation
- **Allied Areas:**
 - Automotive Embedded System, Robotics for Communication

Academic Qualifications

- **Ph.D.:** Robotics, VTU, 2016
- **M.Tech:** Digital Electronics, VTU, 2009
- **B.E.:** ECE, VTU, 2006

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	RV College of Engineering	Associate Professor, Department of ECE	April 2018 - Till date
2.	RV College of Engineering	Assistant Professor, Department of ECE	August 2011- April 2018
3.	SJB Institute of Technology	Lecturer	August 2009- August 2011

Publications & Patents

Journal Publications

1. Abhay .A. Deshpande, Dr. Nataraj K.R, “**Priority Based Motion Control of Multiple Robot Systems**”, International Journal of Innovative Research in Science Engineering and Technology(IJRSET-2013) , PP. 305-314 January - 2013 .- **Indexed in Google Scholar**
2. Abhay .A. Deshpande, Dr. Nataraj K.R, “**A Novel Architecture for Path Planning of Mobile Robots**”, International Journal of Advance Engineering and Research Development (IJAERD-2014) , PP. 110-114 July - 2014 .- **Indexed in Google Scholar**
3. Rohit Kumar Jain , Praful S Namoshi , Satish C C , A H Muralidhar, Abhay .A. Deshpande, “**Autonomous Cleaning Vehicle for Various Platforms**”, International Journal of Science and Research (IJSR-2014), Volume 3, Issue 3, PP. 833-836 March - 2014.
4. Nishchitha H V Prasad, Abhay A Deshpande, S Pradeepa, Siva Subbaraopattange “**Power Generation Using Piezoelectric system for Street Light System**”, International Journal of Industrial Electronics and Electrical Engineering, Volume 4, Issue 5, PP. 64-68 May - 2016.
5. Manjunath Managuli and Dr. Abhay Deshpande, “**Use of Discovery by classifier using Electronic Nose system: A Survey**”, International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE)- Volume 7 Issue 7, Page No. 58-79- 2018.
6. Sahana B and Dr. Abhay Deshpande “**Agent based Load Balancing for Fault Tolerant Networks**”- International Journal of Research in Electronics and Computer Engineering, Vol. 6, Issue 4, December 2018.
7. Kushaala Hande, Sahana B, Abhay Deshapande “**Analysis of Linux System Performance through CLI Tools**” Journal of Emerging Technologies and Innovative Research (JETIR), Volume 6, Issue 6, June 2019.
8. Manjunath Managuli and Dr. Abhay Deshpande, “**Description and identification of soil quality measuring development using uav's and e-nose system**”, International Journal of Recent Technology and Engineering ISSN: 2277-3878, Volume-8, Issue-3, September 2019, pp 3542-3545. – Indexed in **SCOPUS**.
9. Manjunath Managuli and Dr. Abhay Deshpande, “**Automated Food Quality Technique Using Electronic Nose System**”, TEST Engineering and Management ISSN: 0193 - 4120, February 2020, pp 11852-11856. – will be indexed in **SCOPUS**.
10. Sahana B and Dr. Abhay Deshpande, “**Fault Tolerant Real Time Data Migration In Wireless Sensor Networks**”, Journal of Advanced Research in Dynamical and Control Systems, February 2020, ISSN: 1943-023X – will be indexed in **SCOPUS**.

11. D P Karthik, Diganth Bhargava H S, Dr. Abhay A Deshpande, “**Hand Gesture Controlled Robotic Arm for Industrial Application**”, International Journal of Science and Research (IJSR), Volume 9, Issue 5, pp 857-859. May 2020. ISSN: 2319-7064.
12. Sahana B, Abhay Deshapande, “**Implementation of Hybrid Load Balancing Algorithm in web servers**” International Journal of Advanced Science and Technology,(IJAST) – May 2020 - will be indexed in **SCOPUS**.
13. Sahana B, Abhay Deshapande, “**Optimal Network Route Estimator using Prediction Algorithms**” IEEE CONNECCT -2020
14. Sahana B, Abhay Deshapande "Optimized Resource Allocation using a Predictive Model“ MCCS 2020,Spriger Publications.
15. Krishna Daivajna, Abhay Deshpande and Shylashri N, “**UVM Based Test Framework Implementation for Functional Verification of RTL Design (ARM Based Heterogeneous SoC)**”, International Journal of Advanced Science and Technology,(IJAST) – June 2020 - will be indexed in **SCOPUS**. ISSN: 2207-6360.
16. Abhay Deshpande, “**Smart Cleaning Robot for COVID – 19 Isolation Wards**”. International Journal of Advanced Science and Technology, (IJAST) – June 2020 - will be indexed in **SCOPUS**. ISSN: 2207-6360.
17. Spoorthi B K, Abhay Deshpande and Rajat Kulshrestha, “**Power, Perfomance and Area Analysis of Low Power IC Design in FinFET Technology**”. International Journal of Advanced Science and Technology, (IJAST) – June 2020 - will be indexed in **SCOPUS**. ISSN: 2207-6360.
18. Sameera P and Abhay Deshpande, “**Development of Pomegranate Diseases Databases and its Compatibility with Raspberry Pi**”. International Journal of Advanced Science and Technology, (IJAST) – June 2020 - will be indexed in **SCOPUS**. ISSN: 2207-6360.
19. Manjunath Managuli, Abhay Deshpande., “**Soil Quality Measuring Expoitation Using Uav's And E-Nose System,**” International Journal of Recent Technology and Engineering, Elsevier Scopus Index, Volume-8, Issue-3 September 2019.
20. Manjunath Managuli, Abhay Deshpande., “**Use of discovery by classifier using electronic nose system: A survey,**” I.E.T.E. Springer series, Springer, ISSN: 1755-0564, Mar-2019.
21. Manjunath Managuli, Abhay Deshpande., “**A role of Electronic nose system**”, Information gathering with smart phone,” Materials Today Proceedings, Elsevier. July 2020.

22. Manjunath Managuli, Abhay Deshpande., “**Implementation of Electronic Nose System by Using Quad copter,**” International Journal of Advanced Science and Technology, Elsevier Scopus Index, Volume-29, Issue 9S, Page No. 6823-6832, June-2020.
23. Akshay Bhati and Abhay Deshpande, “**Smartphone Controlled Multipurpose Robot Car**”, International Journal of Engineering Research & Technology (IJERT) (ISSN: 2278-0181), Volume 9 , Issue 5 , May – 2020.

National Journal

1. Nayim Ali Khan, Abhimanyu Sarda, Abhay Deshpande, “**Bionic Arm**”, Journal of Instrumentation and Control Engineering (IJIC-2017), Volume 2, Issue 2, PP. 1-7 July - 2017.
2. Ayush Jain, Maruti Nandan, Ojaswi Pandey, Abhay Deshpande, “**LI-FI Technology**” Journal of Wireless communication, Networks and Mobile Engineering Technology (JWNM-2017), Volume 2, Issue 3, PP. 1-13 July - 2017.
3. Arjun H Y , Madhusudhan S , Sanjay R , Abhay Deshpande , “**Implementation of Smoke Detector using Sensor and Op-Amp**”, Journal of Circuits and Systems (JCS-2017), Volume 2, Issue 2, PP. 1-4 July - 2017.
4. Sahana B, Abhay Deshapande ,”**Optimal Load Balancing Strategy in a Virtual Environment**” RV journal of Science and Technology engineering arts and management. RVJSTEAM-2020.

Conference Papers

1. Abhay .A. Deshpande, Dr. Nataraj K.R, “**Design and Control of Biomimetic Robots Using Wireless Communication**”, International Conference on Electrical, Electronics Engineering and Computer Science (ICEEEA-2012) , PP. 98-102, Bangalore – December 2012.
2. Abhay .A. Deshpande, Dr. Nataraj K.R, “**Smart Cleaning Device**”, Indian Sustainability Congress (ISC-2014), Bangalore – March 2014.
3. Abhay .A. Deshpande, Dr. Nataraj K.R, “**Autonomous Cleaning Vehicle for Various Platforms**”, International Conference on Emerging Research in Computing, Information, Communication and Applications (ERCICA-2014) , Bangalore – August 2014. The Proceeding is published in **ELSEVIER**.
4. Nishchitha H V Prasad, Abhay A Deshpande, S Pradeepa, Siva Subbaraopattange “**Power Generation Using Piezoelectric system for Street Light System**”, International Conference on Recent Innovations in Electrical, Electronics, Computer, Information, Communication and Mechanical Engineering (ICRIEEICME-2016),Bangalore – March 2016 – **Best Paper Award**.

5. Sindhi K.S and Dr. Abhay Deshpande “**Detection of Mud on Camera Lens for Advance Driver Assistance System**”, International Conference on Intelligent Computing and Control (I2C2-2017), Bangalore – June 2017 - indexed in **SCOPUS**.
6. Manjunath Managuli and Dr. Abhay Deshpande “**Emergent Vehicle Tracking System Using IR**”- International Conference On Electronics, Communication, Computer Technologies and Optimization Techniques, December 2017, GSSS Institute of Engineering and Technology for Women, Mysore, Karnataka, India - indexed in **SCOPUS**.
7. Sameera P and Dr. Abhay Deshpande, “**Pomegranate Diseases And Detection Using Sensors: A Review**”, [Second International Conference on Green Computing and Internet of Things \(ICGCIoT\)](#), August – 2018 - indexed in **SCOPUS**.
8. Dr.Abhay A Deshpande, Prateek, Himanshu Shekhar, Labdhi Jain, Sahana B “**Development Of Vehicular Advisory Algorithm For Traffic And Collision Reduction**” IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT 2019), May 2019, Sri Venkateshwara College of Engineering, Bengaluru, Karnataka, India. – Will be indexed in **SCOPUS**.
9. Sumana N S, Sahana B, Dr.Abhay A Deshpande, “**Design And Implementation Of Low Power – High Performance Mixed Logic Line Decoders**” IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT 2019), May 2019, Sri Venkateshwara College of Engineering, Bengaluru, Karnataka, India. – Will be indexed in **SCOPUS**- ISBN: 978-1-7281-0630-4/19/\$31.00 ©2019 IEEE.
10. Sahana B, Abhay Deshapande, Harish Dayalan “**Credit Card Fraud Detection Using Machine Learning**” IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT 2019), May 2019, Sri Venkateshwara College of Engineering, Bengaluru, Karnataka, India. – Will be indexed in **SCOPUS**- ISBN: 978-1-7281-0630-4/19/\$31.00 ©2019 IEEE.
11. Sumana N S, Dr. Abhay A Deshpande, “**Design and Implementation of SRAM Architecture using SK-LCT Technique for Low Power Applications**” 3 rd International Conference on Electronics and Communication and Aerospace Technology (ICECA 2019), June 2019. - Will be indexed in **SCOPUS** - ISBN: 978-1-7281-0167-5.
12. Shivakumar V Gaded, Dr. Abhay A Deshpande, “**Composite Field Arithmetic Based SBox for AES Algorithm**” 3 rd International Conference on Electronics and Communication and Aerospace Technology (ICECA 2019), June 2019. –indexed in **SCOPUS** - ISBN: 978-1-7281-0167-5.

13. Manjunath Managuli and Dr. Abhay Deshpande, “**Use Of Discovery By Classifier Using Electronic Nose System: A Survey**”, International Conference on Intelligent Machines, March 15 - 16, 2019 (ICIM-2019). – will be published by Springer in IETE Springer Series.
14. Abhay Deshapande, Sahana B, “**Design and Implementation of Hybrid VM Migration Algorithm in Intra-Cluster Environment**” 2nd International Conference on Data Science, Machine Learning & Applications (ICDSMLA) 2020, Springer Publications.

National Conferences

1. Abhay .A. Deshpande, “**Ultra Low-Cost Defect Protection for Microprocessor Pipelines**”, 3rd National Conference on Advanced Techniques in Electrical Engineering (ATEE-2010), Bangalore-March 2010.
2. Nidish G, Abhay .A. Deshpande, “**War–Field Life Savers**”, 3rd National Conference on Recent Advances in Technology and Engineering (RATE-2014), Bangalore-March 2014.
3. Shashank V, Abhay .A. Deshpande, “**Detection of an Object Using Image Processing on FPGA**”, National Conference on Emerging Technology in Electronics and Communication Engineering (ETECE-2014), Bangalore-March 2014.
4. Shashank V, Abhay .A. Deshpande, “**Odometric Error Reduction in Robot Localization**”, 3rd National Conference on Recent Advances in Technology and Engineering (RATE-2014), Bangalore-March 2014.
5. Venkatesh and Dr. Abhay Deshpande, “**Design And Analysis Of Blocks For An All Digital Phase Lock Loop**”, National Conference on Knowledge Dissemination of PG Projects and Research Work – 7 -8 May- 2018, RVCE, Bengaluru.
6. Shreyas H S and Dr. Abhay Deshpande, “**Design and Analysis of Components for VCO Enabled Quantizer using Different Stages of Ring Oscillator in CT Sigma Delta ADC**”, National Conference on Knowledge Dissemination of PG Projects and Research Work – 7 -8 May- 2018, RVCE, Bengaluru.

Books/Book Chapters

1. Dr. Abhay Deshpande, Control Engineering, New Age International Publisher, 2022.
2. Dr. Abhay Deshpande, Network Theory, MEDTECH, A Division of Scientific International, 2021.

Patents [Filed / Published / Granted]

1. A Handheld Hidden Camera Detecting Device, 202041056998, 2021.
2. Electronic Nose System For Food Applications, 201941027652, 2019.

R & Grants & Consultancy Projects

Ongoing & Completed Research Projects

- **Design Of Advanced Encryption Standard System For Data Encryption And Decryption Using FPGA** – Karnataka State Council for Science and Technology (KSCST): 2021, PI.

Ongoing & Completed Consultancy Projects

- **Design and Development of an Instrumentation Amplifier to measure the low resistance** - GR Agritek Labs Private Limited: 2021, PI
- **Design and Development of sensor – array based E-nose drone for Industrial Automation** - Qtronics, Bengaluru: 2020, PI
- **Autonomous UAV take-off and landing on a dynamic ground vehicle-** Wipro-IISc Research Innovation Network: 2019, PI
- **Analysis of 5-Degree Freedom Humanoid Hand-** Ideas Unlimited, Mysuru: 2018, PI

Professional Memberships

- IEEE, IEI and ISTE

Awards & Recognitions

- IEI YOUNG ENGINEER AWARD, The Institute of Engineers (India), 2021

Student Supervision

- **Ph.D. Candidates:** 8 (4 Graduated)
- **M.Tech/M.Sc. Students:** [16]
- **Undergraduate Research Mentees:** [24]

Professional Roles

- **Chair/Committee Member:** International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (I7C - 2019) held on 28th - 29th November 2019 at SSCE, Bangalore.
- International Journal in Measurement and Control by SAGE Publication.
- International Conference On Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT-2018) organized by GSSS Institute of Engineering & Technology for Women held on 14 - 15 December 2018.
- IEEE International conference on Advanced Networks and Telecommunication Systems 2019.
- Journal of Engineering Research and Reports, May 2021.

Teaching

Core Courses: **[Current semester]**

- EC123ATC: Principles of Electronics Engineering
- EC364TA: Digital Signal Processing and Machine Learning

Advanced/Lab Courses:

- Microprocessor and Microcontroller Lab and Analog Microelectronics Lab

Professional Roles

Responsibilities

- **Academic:** IQAC Coordinator
- **Administrative:** Lab In-charge

External Connect

- Member of BoS and BoE