

Faculty Profile



Dr. Sandya H. B , Assistant Professor in the Department of Electronics and Telecommunication Engineering at RV College of Engineering, Bengaluru. With a **Ph.D. awarded in 2025** from VTU, Belagavi. Primary research focuses on **Cognitive Radio Networks (CRNs) leveraging machine learning techniques for advanced spectrum sensing and dynamic access**. Allied interests wireless communication and spectrum management using machine learning. 15 years of academic experience and has guided numerous undergraduate research projects. Published more number of papers in reputed journals and conferences, with work encompassing real-time 4G data acquisition, EEG signal processing, and software-defined radio.

Personal Information

- **Name:** Dr. Sandy H B
- **Designation:** Assistant Professor
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Google Scholar:

https://scholar.google.co.in/citations?view_op=list_works&hl=en&user=8IJxywMAAAAJ

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Domain of Expertise: Digital and Wireless communication, Cognitive radio spectrum sensing.

Research Focus

- **Primary Area:** Cognitive Radio Networks Using machine learning based techniques.
- **Allied Areas:**
 - Dynamic Spectrum Access (DSA)

- Spectrum Sensing & Allocation.
- Machine Learning in Wireless Communication

• Academic Qualifications

- **Ph.D.:** Awarded Ph.D. in 2025 under VTU, Belagavi, in the field of Cognitive Radio Spectrum Sensing using Machine learning based techniques.
- **M.Sc./M.Tech:** M.Tech. in Digital Electronics and Communication. In 2013 under VTU, Belagavi.
- **B.E./B.Tech:** Electronics and Communication in 2009, VTU, Belagavi.

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	AMC Engineering, Bangalore.	Lectures and Assistant Professor.	September 2009 to July 2014.

Publications & Patents

Journal Publications

1. Sandya H. B, et al., "Real time 4G band data Acquisition using NI USRP hardware for Performance Evaluation of Spectrum Sensing Techniques in Cognitive Radio Systems using ML-based Algorithms, International Journal of Communication Networks and Information Security Vol 16, no 3, pp 480-492 Sept 2024.
2. Sandya H. B, et al., "IoT-Based Industrial Automation Using a Pair of Synchronous Robotic" International Journal of Research Publication and Reviews, Vol 4, no 6, pp 157-165 June 2023.
3. Sandya H. B, Dr. Nagamani K "Implementation and Analysis of real time signals Spectrum Sensing Techniques for Cognitive Radio Networks" International Journal of GIS SCIENCE JOURNAL ISSN NO : 1869-9391, Page No: 1169-1181 VOLUME 9, ISSUE 12, December 2022.
4. Sandya H. B, Dr. Nagamani K "Design and implementation of transceiver model for 5G physical uplink shared channel" International Journal of Research and Analytical Reviews (IJRAR), E-ISSN 2348-1269, P- ISSN 2349-5138 ISSN: 1869-9391, Page No: 979-983, VOLUME 7, ISSUE 3, July 2020.
5. Megha Anand, Mayuri B, Sandya H. B, "Cloud Computing: Introduction and Security Concerns." International Journal on GIS SCIENCE JOURNAL (GSJ), ISSN: 1869-9391, Page No: 504-

6. Megha Anand, Sahana B S, Sandya H. B, Dr. K Nagamani "Spectrum Sensing in Cognitive Radio using SVM and KNN algorithms.", International Journal on Wutan Huatan Jisuan Jishu (WHJJ), ISSN:1001-1749, Page No:220-227, Volume XVI, Issue VI, JUNE/2020.
7. Abdul Rehman, Meghana S, Annie Sahana, Sandya H. B, "Design and Implementation of IoT based Vehicle Tracking System", International Journal on Wutan Huatan Jisuan Jishu (WHJJ), ISSN:1001-1749, Page No:500-507, Volume XVI, Issue V, May/2020.
8. Ms. Sandya H B et.al. "Generation, Filtering, Feature Extraction, Classification and Forecasting of Electroencephalogram (EEG) Signals" International Journal of Advanced Research in Computer Science and Software Engineering 4(8), Volume 4, Issue 8, August 2014 ISSN: 2277 128X.
9. Ms. Sandya H.B "Generation, Filtering and Feature Extraction of Electroencephalogram (EEG) Signals", International Journal of "Combined Research development", (IJCRD), eISSN: 2321-225X; pISSN: 2321-2241, Volume: 2, Issue: 3, March 2014.
10. Ms. Sandya H.B et al. "Fuzzy Rule based Feature Extraction and Classification of Time series signal", International Journal of "Soft Computing and Engineering", (IJSCE) ISSN: 2231-2307, Volume-3, Issue-2, May 2013. (Citation=3).

Conference Papers

1. Sandya H. B, Dr. K Nagamani , " Performance Analysis of ML techniques for Spectrum Sensing in Cognitive Radio", 7th International Conference on Information and Communication Technology for competitive strategies (ICTCS-2021) – Published in Springer series book on May 2023, Chandigarh, India.
2. Sandya H. B, Dr. K Nagamani , "A thorough Analysis of Cognitive Radio Spectrum Sensing Methods in Communication Networks", 7th IEEE International Conference on Communication and Signal Processing – ICCSP 18", 3rd to 5th April 2018, Melmaruvathur, Tamilnadu, India.
3. Shavanthi L, Dr. K Nagamani, Sandya H. B, "Implementation of DVB Standards using Software-Defined Radio", 2018 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT-2018), MAY 18th & 19th 2018.
4. Pragathi L V, S Divyashree, Shefali rani, Vaibhavi G, Sandya H. B, "ELECTRONIC WALKING STICK FOR BLIND PERSON", 2018 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT-2018), MAY 18th & 19th 2018.
5. Sandya H. B et. al., " ELECTRONIC WALKING STICK FOR BLIND PERSON". National Conference on "ARTIFICIAL INTELLIGENCE & SOCIETY" on the eve of "World Telecommunication and Information Society Day (WTISD-2018)" may 16th and 17th 2018.

6. Mr. Jayanna.S Mrs. Sandya H B. "Implementation of three level CDM over WDM for high speed optical communication" National Conference on "ICT and society". Conducted by department of TE at R.V.C.E during May 2016-17, Bengaluru.

7. Ms. Pooja A, Ms Sandya H B. "The Simulation and Analysis of Various Optical Filters in OCDMA System using Optisim Tool" National Conference on Information communication & Technologies. May 2016, Conducted by the Department of Tele Communication Engineering at R V college of Engineering, Bengaluru.

8. Ms. Sandya H B et.al. "Adaptive Neural Fuzzy based Prediction of Time series signal", National Conference "VLSI, communication & Computer Networks" (VCCN-2) held on 10th May 2014, Conducted by the Department of Electronics and Communication Engineering in AMC Engineering College, Bangalore.

9. Ms. Sandya H.B et al. "New Possibilities in emergency medical transportation and services ", National Conference "VLSI, communication & Computer Networks" (VCCN-2) held on 10th May 2014, Conducted by the Department of Electronics and Communication Engineering in AMC Engineering College, Bangalore.

10. Ms. Sandya H.B et al. "Cab Tracking Mechanism and employee security system ", National Conference "VLSI, communication & Computer Networks" (VCCN-2) held on 10th May 2014, Conducted by the Department of Electronics and Communication Engineering in AMC Engineering College, Bangalore.

11. Ms. Sandya H.B et al. "Feature Extraction, Classification and Forecasting of Time Series Signal using Fuzzy and GARCH Techniques", National Conference, "Challenges in Research & Technologies in the coming Decades" (CRT-2013), held on October 2013 at SDMIT Ujjare. [Published in IET – DL, Indexed by IEEE Explore, ISBN: 978-84919-868-4]. (Citation=7).

Student Supervision

- **Undergraduate Research Mentees:** 25

Teaching

Core Courses:

- Analysis and Design of Digital Circuits using HDL. EC234AI
- Microcontroller and Programming. EI243AI

Advanced/Lab Courses:

- Analysis and Design of Digital Circuits using HDL Lab - EC234AI
- Microcontroller and Programming Lab (Arm-Cortex M4) - EI243AI

Responsibilities

- **Academic:** Test (CIE) Co-coordinator, Research Co-coordinator.
- **Administrative:** Analysis and Design of Digital Circuits using HDL Lab In-charge - EC234AI

External Connect

- External LAB –Internship, Mini and Major Projects Examiner.