Dr. ROOPA S.

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Education

	Degree	Year	Institute	Specialization
1	Ph.D	2020	VTU,Belagavi	Signal Processing
2	M.Tech	2011	B.M.S. College of Engineering, Bengaluru	Digital Communication
3	B.E	2007	Siddaganga Institute of Technology, Tumakuru	Electronics and Communication

Professional Experience

	Date (from-to)	Designation	Organization
1	2015-Present	Assistant Professor	Siddaganga Institute of Technology, Tumakuru
1	2011-14	Senior Research Fellow	CSIR- National Aerospace Laboratories, Bengaluru
2	2010-11	Lecturer	Siddaganga Institute of Technology, Tumakuru
3	2007-08	Lecturer	Siddaganga Institute of Technology, Tumakuru

(Please fill in reverse order. Current designation should be at the top)

Positions held

Test Coordinator
Major Project coordinator
Department website coordinator
NBA criteria coordinator
Department Magazine coordinator

Affiliations of Professional organizations

- Life member of ISTE.

Awards and Honors

- Received a Gold medal from VTU for securing First rank in M.Tech in the year 2011
- Received “Special Mention of the Jury award” for the Ph.D thesis from BITES in the year 2020
- Received Best Paper award in 12th IEEE International Conference on Advanced Computing, 2023.

Courses Taught

Undergraduate Courses

1. Signals and systems
2. Microcontrollers
3. Digital Signal Processing
4. Digital Signal Compression
5. Basic Electronics
6. Communication Systems-I
7. Communication Systems-II
8. Project Management
9. Linear Algebra and its applications
10. Introduction to Electronics Engg.
11. Introduction to C++ Programming
12. Object Oriented Programming with C++
13. Data Structures with C
14. Artificial Neural Networks
15. Augmented Reality and Virtual Reality
16. Mathematics for Signal Processing
17. Universal Human Values

Postgraduate Courses

1. Digital signal compression

Research Guidance

Sl. no	Name of the Scholar	Title	Year of completion
1	Anushree T	Analysis of food products using AI	--

Research Areas

- Signal Processing
- Communications
- Machine learning
- Deep Learning

Sponsored Projects

Ongoing Projects: NiL

Completed Projects: NiL

Publications

Journals

1. Roopa S. Narasimhan S.V. B.Babloo "Steiglitz-McBride adaptive notch filter based on variable step-size LMS algorithm and its application to active noise control", International Journal of Adaptive Control and Signal Processing, vol. 30, pp. 16–30.2016

2. Roopa S. Narasimhan S.V. "Improved DCT domain variable step-size Griffith's LMS algorithm based active noise control using observation noise cancellers for secondary path identification", International Journal of Vehicle Noise and Vibration, vol. 13, pp. 118-136, 2017.

3. Roopa S. Narasimhan S.V. "Magnitude Square Coherence (MSC) Estimation via an ARMA Model Based on Analytic DCT and Group Delay", Circuits, Systems, and Signal Processing, vol. 37, pp. 1203-1222, 2018.

4. Roopa S. Kumar E.K “Analysis of conical liquid antenna for wide range of frequencies”, International Journal of Ultrawideband Communications and Systems, vol. 4, pp. 197-204.2021.

5. Roopa S. Narasimhan S.V. “Improved stability performance of a feedback active noise control using a Steiglitz-McBride adaptive notch filter and robust secondary path identification based on variable step size Griffiths LMS algorithm”, Noise Control Engineering, Journal, vol. 69, pp. 136-145, 2021.

6. Roopa S. Narasimhan S.V. “Improved evolutionary spectrum estimation using short time analytic discrete cosine transform with modified group delay”, Mechanical Systems and Signal Processing, vol. 167, 2022.

7. Veena Karjigi, S Roopa, H M Chandrashekar ,“Investigation of different time–frequency representations for detection of fricatives”, International Journal of Speech Technology, Springer, Vol. 27, no. 3,pp. 599-611, 2024

8. S Roopa, Veena Karjigi, H M Chandrashekar, “Analyzing fricative confusions in healthy and pathological speech using modified S-transform”, International Journal of Speech Technology, Springer, 2024

9. Roopa S. Narasimhan S.V. “S-method based on modified group delay for time-frequency analysis”, Noise Control Engineering Journal, vol. 72, no. 2,pp. 90-104,2024

10. S. Roopa, S.V. Narasimhan,”Transform domain Variable Step-size Griffiths Least Mean Square adaptive algorithm and its applications”, Computers & Electrical Engineering, Volume 40, Issue 4, 2014, pp. 1028-1041, ISSN 0045-7906, https://doi.org/10.1016/j.compeleceng.2013.11.025.

11. S. Roopa, S.V. Narasimhan, S-transform based on analytic discrete cosine transform for time–frequency analysis, Signal Processing, Volume 105, 2014, Pages 207-215, ISSN 0165-1684, https://doi.org/10.1016/j.sigpro.2014.05.035.

Conference Proceedings

1. Rajini, K. C.;Roopa, S., “A review on recent improved image fusion techniques”, Proceedings of the 2017 International Conference on Wireless Communications, Signal Processing and Networking, WiSPNET 2017, Pages 149-153

2. Nadeem Pasha, S Roopa, “Continuous Kannada Noisy Speech Recognition”, 2018 International Conference on Recent Innovations in Electrical, Electronics and Communication Engineering, ICRIEECE 2018, year 2018, pp. 857-861

3. Roopa S. Manju, H.B., Shadab, M., Nikhil, J., Nithin, N.S. “Design of Voice Automated Floor Cleaning Robot”, 12th IEEE International Conference on Advanced Computing, ICoAC 2023.

4. Babu S.M.,Sharma V.K.,Roopa S., “Implementation of New Incremental Mass Clustering Algorithm to Handle Dynamic Dataset and Identify Core, Non-Core, Noisy Points”, International Conference on Smart Systems for Applications in Electrical Sciences, ICSSES 2023, Year 2023

5. Pranav M., Hegde V.N., Raju R.S., Roopa S. “Deep Learning and Sensor Fusion Technique for Indigenous Intelligent Vision System for Theft Detection” Proceedings - 2023 IEEE World Conference on Applied Intelligence and Computing, AIC 2023, Year 2023, Pages 971-976

6. A. Bhardwaj, M. M. Hyder, B. Pragna, L. Anche, V. N. Hegde and Roopa. S., "Design and Control of Four Legged Spyder Robot," 2023 8th International Conference on Communication and Electronics Systems (ICCES), Coimbatore, India, 2023, pp. 45-50, doi: 10.1109/ICCES57224.2023.10192828.

7. Roopa. S, Suchith. S, Vinay. A, Likitha. G and Nandini. T Y, "Computer Vision Based Crack Detection of Railway Track," 2025 3rd International Conference on Smart Systems for applications in Electrical Sciences (ICSSES), Tumakuru, India, 2025, pp. 1-7, doi: 10.1109/ICSSES64899.2025.11009643.

Book Chapters

- NIL
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Books

Authors: Dr.S.V.Narasimhan, S.Veena, S.Roopa

Book titled “Optimum and adaptive signal processing” published by I.K. International publishers in the year 2017

ISBN-13 : 978-9385909597

Editor/ Reviewer of Journal

- Reviewer for the Sound and Vibration Journal.

Patents

- NIL

Invited Lectures, talks and workshops

- Delivered a talk in Faculty Development Program in Computer Science Engg. Department, on Microcontrollers from 24th Nov to 28th Nov 2015.
- Delivered a lecture on “Applications of Adaptive Filters in MATLAB” held during 23rd - 28th January 2023, organized by the Department of Electronics & Instrumentation Engineering, BMS College of Engineering, Bengaluru.
- Delivered a lecture on “Automation and Robotics” held on 6th January 2023, organized by Government Polytechnic, Tumakuru,