Dr. Nethravathi K A

Dr. Nethravathi K A Selection Grade Assistant Professor		
Educational Qualification	B.E (Electronics and Instrumentation Technology), M.Tech (Digital Communication and Networking. Ph.D (Design and Analysis of equalization techniques in Wireless Underground Sensor Networks.)	
Experience	Teaching: 18 Years.	
Area of Interest	RADAR Signal Processing & Wireless Communication, 4G/5G Technologies and Advanced Computer Networking, Data structure and Algorithm using C++ and JAVA, OOPS Concepts, AL/ML,NTN.	
Email ID	nethravathika@rvce.edu.in	
Date of Joining at RVCE: 22nd Feb 2008		

Book series:

1. Nethravathi, K.A., Vadada, S., Trivedi, D., Jayanthi, A.P. (2023). Comparison of Collision Avoidance and Path Planning Algorithms for Unmanned Surface Vehicle. In: Tuba, M., Akashe, S., Joshi, A. (eds) ICT Systems and Sustainability. ICT4SD 2023. Lecture Notes in Networks and Systems, vol 765. Springer, Singapore. https://doi.org/10.1007/978-981-99-5652-4_28.
2. Likhita, M., Sumanth, N.S., Harish, A.A., Reddy, R.R., Nethravathi, K.A., Kumari, M.U. (2022). Obstacle Detection in Autonomous Vehicles Using 3D LiDAR Point Cloud Data. In: Jacob, I.J., Kolandapalayam Shanmugam, S., Bestak, R. (eds) Data Intelligence and Cognitive Informatics. Algorithms for Intelligent Systems. Springer, Singapore. https://doi.org/10.1007/978-981-16-6460-1_57.
3. Swathi, R., Mishra, B.R., Nethravathi, K.A. (2022). Error Notification Management for Synchronization of ES10b Interface in RPM. In: Kumar, A., Ghinea, G., Merugu, S., Hashimoto, T. (eds) Proceedings of the International Conference on Cognitive and Intelligent Computing. Cognitive Science and Technology. Springer, Singapore. https://doi.org/10.1007/978-981-19-2350-0_18
4. Agarwal, Y., Nethravathi, K.A. (2021). Emerging Trends in Internet of Things. In: Singari, R.M., Mathiyazhagan, K., Kumar, H. (eds) Advances in Manufacturing and Industrial Engineering. ICAPIE 2019. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-15-8542-5_67

IOS Press Ebooks

1. M Sheik Althaf, K P Ray, Nethravathi K A, Bhishm Tripathi, Ashish K Adiga" Non-Uniform Linear Nested Array Implementation for Improved Beamforming And optimization , pages 335-341, series -Advances in transdisciplinary Engineering , Ebook-volume 27: Advanced Production and Industrial Engineering,2022
2. M Sheik Althaf, K P Ray, Nethravathi K A, Bhishm Tripathi, Ashish K Adiga"Computational Challenges in Firmware Implementation of Beamforming Techniques and enhancement " pages 116-122, Advances in Transdisciplinary Engineering, Ebook-Volume 27: Advanced Production and Industrial Engineering,2022

Journal :

1. Mahadev Mahesh Maitri, Dr Nethravathi k A" Classification of Ships using ISAR Images with Combined Deep Transfer Learning and GAN Processing Framework" International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Vol. 10 Issue 10, October-2021.
2. Roopa S C, Mrs. Nethravathi.K.A, Avik Sen "FasTest Solutions for XiL Test Management", International Research Journal of Engineering and Technology (IRJET), 2020, e-ISSN: 2395-0056, p-ISSN: 2395-0072
3. K. A. Nethravathi, and S. Ravi Shankar" Signal Superposition Model with Mineralogy Based Spectroscopic Dielectric Model in Wireless Underground Sensor Networks" INTL JOURNAL OF ELECTRONICS AND TELECOMMUNICATIONS, 2019, VOL. 65, NO. 4, PP. 693-699 Manuscript received January 2, 2019; revised September, 2019. DOI: 10.24425/ijet.2019.130251
4. Arjun Nethravathi K.A" Performance improvement of IGS systems and new feature addition to the healthcare hardware automation PC for data collection from CA1000 PACS RIS workstation" 2015/6 JournalInternational Journal of Current Research Volume 7 Issue Issue 06 Pages pp. 17349-17356
5. Arjun Nethravathi K.A "Design of Channel Model for Wireless Underground Sensor Network Using Zigbee" 2015/5, International Journal of Current Research, Volume 7 Issue 5, Page no.15597-15604
6. Dr Sumithra Devi K.A Nethravathi K.A," Characteristics, challenges and applications of wireless underground sensor networks",2014/3, CDQM Journal.

International Conference:

1. S. Agarwal, S. Sathish, D. A and Nethravathi. K.A, "Design of Convolutional Neural Networks for Classification of Ships from ISAR Images," *2024 IEEE Radar Conference (RadarConf24)*, Denver, CO, USA, 2024, pp. 1-6, doi: 10.1109/RadarConf2458775.2024.10548423.
2. S. Patil, R. A. Benni, Nethravathi K A, H. V. Ravish Aradhya and R. Duggal, "Square Shape Microstrip Patch Antenna-Array With Defected Ground Structure: Versatile Design for Emerging 5G Communication Technologies and Beyond," *2024 IEEE 9th International Conference for Convergence in Technology (I2CT)*, Pune, India, 2024, pp. 1-9, doi: 10.1109/I2CT61223.2024.10543765.
3. M. S. Althaf, K. P. Ray, A. Mittal, S. Vasudeva, K. A. Nethravathi and S. Elayaperumal, "Performance Analysis of Adaptive Beamforming on Large Inter Element Spaced Aperiodic Phased Arrays," *2023 IEEE Microwaves, Antennas, and*

Propagation Conference (MAPCON), Ahmedabad, India, 2023, pp. 1-6, doi: 10.1109/MAPCON58678.2023.10463770.

4. M. S. Althaf, K. P. Ray, A. Divantgi, S. R. D. Prasad, K. A. Nethravathi and S. Elayaperumal, "Grating Lobe Suppression in Aperiodic Antenna for Large Phased Array using Genetic Algorithm," 2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Ahmedabad, India, 2023, pp. 1-6, doi: 10.1109/MAPCON58678.2023.10464016.
5. D. Meena, V. Dhavamani and K. A. Nethravathi, "Mathematical Analysis and Modelling of a Novel Photonic based FMCW Signal Generation for Long Range Radar Applications," *2022 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)*, Bangalore, India, 2022, pp. 1-6, doi: 10.1109/CONECCT55679.2022.9865719.
6. A. K. Adiga, Nethravathi K A and B. Tripathi, "Design of Archimedean Spiral Antenna for Wireless Underground Sensor Network," *2022 IEEE International Conference on Distributed Computing and Electrical Circuits and Electronics (ICDCECE)*, Ballari, India, 2022, pp. 1-5, doi: 10.1109/ICDCECE53908.2022.9792923.
7. K. A. Nethravathi and S. R. Shankar, "Performance of adaptive equalization techniques in wireless underground sensor networks," *2017 International Conference on Intelligent Computing and Control Systems (ICICCS)*, Madurai, India, 2017, pp. 1293-1299, doi: 10.1109/ICCONS.2017.8250677.
8. K. A. Nethravathi and S. R. Shankar, "Channel modeling and analysis with mineralogy based spectroscopic dielectric model in wireless underground sensor networks," *2017 2nd International Conference for Convergence in Technology (I2CT)*, Mumbai, India, 2017, pp. 155-160, doi: 10.1109/I2CT.2017.8226112.

Funded project from LRDE, DRDO organization

Principal Investigator : Dr. Nethravathi K. A, Dr.Geetha K.S

Sr. No	Project Name	Amount	Status	Duration
1	Modelling, Simulation, Comparative Performance Evaluation and Firmware implementation of Adaptive Digital Beam Forming for Active Phased Array Radar	10.32L Lakhs	Completed	March 22-Oct 23

Industry Consultancy Projects with NOKIA on 5G/6G Technology

Principal Investigator: Dr.Nethravathi K.A, Dr.Geetha K.S

Sr. No	Project Name	Amount	Status	Duration
1	Developing a Proof of Concept for an independent Self-Organizing Networks Operation Analytics	2.95 Lakhs	Completed	june 26th 2024

	entity to enhance network management through automatic learning and issue identification			to jan9 2025
2	Modelling 4G /5G Physical layer based on i) PRACH parameters. ii) Modelling Beams based on MIMO configuration and Beam configuration parameters.	3.54 Lakhs	Completed	Nov 22th 2022 to 20th March 2023
3	Digital Twin technology based on AI/ML Models and Advanced PRACH optimization serves as use which validates the usage of Digital twin Technology	3.54 Lakhs	Completed	July 20th 23 to Feb 8th 2024

Research Based Project completed :

1. 6G OTFS Communication." Focuses on transmitting and receiving signals using Orthogonal Time Frequency Space (OTFS) modulation, simulating MIMO channels to analyze performance metrics like Bit Error Rate (BER) across different SINR levels", June 2024 - Aug 2024, NOKIA
2. Intelligent Traffic Capacity Prediction for BTS- Utilized deep learning models (LSTM, GRU, RNN) for time series forecasting to predict traffic peaks and developed a GUI with Flask for user interaction and model parameter adjustments. March 2023 - March 2024, NOKIA.
3. CNN for ship classification from ISAR images - Developed a convolutional neural network model based on VGG16 for automatic ship recognition using ISAR images, focusing on military applications for maritime surveillance.Nov 23, DRDO, LRDE,
4. Intelligent Data Offloading using UAV/Robot (edge) assistance in 5G Mission Critical Communications. Samsung R&D
5. Private Data Classification using Deep Neural Networks. Samsung R&D

Certifications / Online Courses

Sl	Course Name	Platform/organization	Date of Completion / Issue
1	Artificial Intelligence in Telecom	5G World PRO.com	19th February 2025
2	5G and Satellite	5G World PRO.com	17th February 2025

3	5G Communication Technology	DADB - German Academy of Digital Education	July 2023
4	Introduction to Wireless and Cellular Communications	NPTEL, IIT Madras	Oct 2018
5	Principles of Modern CDMA/MIMO/OFDM Wireless Communications	NPTEL, IIT Madras	April 2018

Awards and Recognitions

Category	Award / Recognition	Organization	Year
NOKIA Awards	First Prize – *"Intelligent Traffic Capacity Prediction Model for BTS"* – Best Implemented Research-Based Project	NOKIA	2024
	Second Prize – *"Design and Analysis of Intelligent Reflecting Surfaces for Enhanced 6G Communication"*	NOKIA	2024
Samsung R&D Awards	Excellence Award – *Private Data Classification using Deep Neural Networks*	Samsung R&D	June 2021
	Excellence Award – *Intelligent Data Offloading using UAV/Robot (Edge) Assistance in 5G Mission Critical Communications*	Samsung R&D	March 2022
Best Paper Award	*"Characteristics and Applications of Wireless Underground Sensor Networks"* – Selected as Best Paper at ICFC-2012	R.V. College of Engineering	20th Dec 2012