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Dr. Nithin K S

Assistant Professor in CE

Faculty
Faculty of Engineering and Technology

School / Program
Faculty of Engineering and Technology/
B.Tech. in Civil Engineering

Faculty Introduction

Dr. Nithin K. S. is a Civil Engineer and academician specializing in Transportation Engineering, Intelligent Transportation Systems (ITS), and Geospatial Data Analytics. He earned his Ph.D. in Civil Engineering from the National Institute of Technology Karnataka (NITK), Surathkal, where his research focused on developing operational strategies for public bus transit systems considering variations in passenger mobility patterns. His work integrates machine learning, deep learning, and spatial data visualization techniques to improve urban mobility and infrastructure management. He has teaching, research, and industry experience with a focus on sustainable and intelligent transport solutions.

Qualifications

Ph.D. (Civil Engineering)
National Institute of Technology Karnataka (NITK), Surathkal (2021–2024)

M. Tech. (Transportation Engineering and Management)
BMS College of Engineering, Bengaluru (2015–2017)

BE (Civil Engineering)
BIET, Davangere (2010–2014)

Experience

Teaching

- 2 Years at BIET, Davangere
- 1 Year at GM University, Davangere

Industry

- 1 Year Technical Engineer, Srushti Consultancy, Bengaluru

Research

- Urban Transit Planning and Management

Training Program Attended

- Workshop on "Tensor Computation and Machine Learning," IISc Bengaluru, November 17–18, 2023..
- Workshop on "Transportation System Design" (PM Gati Shakti initiative), NITK Surathkal, November 20–24, 2023.

Research Interest

- Public Transportation Systems
- Intelligent Transportation Systems (ITS)
- Geospatial Data Analytics and Visualization
- Urban Transit Planning and Management
- Machine Learning and Deep Learning Applications in Transportation

Awards & Achievements

- NIL

Publication / Patents

- Ph.D. Dissertation:
  - Design of Operational Strategies for Public Bus Transit Considering Variations in Passenger Mobility Pattern
- International Conference Papers:
  - Nithin, K. S., and Raviraj, H. Mulangi. (2022). "Spatio-Temporal factors affecting short-term public transit passenger demand prediction: a review." *Proc., 14th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC), 421-430. DOI:* https://doi.org/10.1007/978-981-99-6090-3_34
  - Shanthappa, N. K., Raviraj, H. Mulangi. (2023). "Development and Comparison of Deep Learning and Statistical Models to Predict Bus Passenger Flow." *International Conference on Sustainable Infrastructure: Innovation, Opportunities and Challenges-2023*, NITK, Surathkal. DOI: https://doi.org/10.1007/978-981-97-4852-5
  - Shanthappa, N. K., Raviraj, H. Mulangi., Abhishek, Kumar. (2023). "Travel Decisions and Experiences of Bus Passengers During Extreme Rainfall Conditions." International Conference on Sustainable Infrastructure: Innovation, Opportunities and Challenges-2023, NITK, Surathkal. DOI: https://doi.org/10.1007/978-981-97-4852-5
  - Shanthappa, N. K., Raviraj, H. Mulangi., Rishabh, Sharma., Himangshu, Baishya., Prateek, Panth., M. D. Mohtashim. (2023). "Visualisation and Assessment of Seasonal Variations in Bus Passenger Mobility Pattern." *International Conference on Sustainable Infrastructure: Innovation, Opportunities and Challenges-2023*, NITK, Surathkal. DOI: https://doi.org/10.1007/978-981-97-4852-5
  - Shanthappa, N. K. (2025). Impact of diverse land use and population densities on access and egress mode choice of bus transit system. International Conference on Sustainable Infrastructure: Innovation, Opportunities and Challenges 2024 (SIIOC 2024).

  - Shanthappa, N. K., et al. (2024). Effect of Weather on Passengers' Access and Egress Mode Choice. Proceedings of the International Conference on Sustainable Infrastructure: Innovation, Opportunities and Challenges (SIIOC 2024).
  - Shanthappa, N. K. (2025). Analyzing the heterogeneity in public transit demand. International Conference on Sustainable Infrastructure: Innovation, Opportunities and Challenges 2024 (SIIOC 2024).
- International Journal Papers:
  - Nagesh, S., Jagadeesh, H. S., and Nithin, K. S. (2021). "Study on effect of laboratory roller compaction on unconfined compressive strength of lime treated soils." International journal of geo-engineering, 12(1), 22. Doi: https://doi.org/10.1186/s40703-021-00150-7
  - Shanthappa, N. K., Mulangi, R. H., and Manjunath, H. M. (2023). "The Spatiotemporal Patterns of Bus Passengers: Visualisation and Evaluation using Non-negative Tensor Decomposition." Journal of Geovisualization and Spatial Analysis, 7(1), 9. DOI: https://doi.org/10.1007/s41651-023-00139-z
  - Shanthappa, N. K., Mulangi, R. H., and Manjunath, H. M. (2023). "Deep Learning-Based Public Transit Passenger Flow Prediction Model: Integration of Weather and Temporal Attributes." Public Transport. DOI: https://doi.org/10.1007/s12469-024-00365-8
  - Shanthappa, N. K., Mulangi, R. H., and Manjunath, H. M. (2023). "Origin-Destination Demand Prediction of Public Transit using Graph Convolutional Neural Network". Case Studies in Transport Policy. DOI: https://doi.org/10.1016/j.cstp.2024.101230

Professional Membership

- NIL

Awards & Recognitions

- NIL

Administrative Responsibilities

- Department Level: Research coordinator, NSS, NCC, Sports and Yoga Coordinator.
- University Level: Secretary of Green Tech and Sustainable Engineering Club.

Workshops / FDPs / Seminars Attended

- Workshop on "Tensor Computation and Machine Learning," IISc Bengaluru, November 17–18, 2023..
- Workshop on "Transportation System Design" (PM Gati Shakti initiative), NITK Surathkal, November 20–24, 2023.

Workshops / FDPs / Seminars Organized

- NIL

Projects Guided

- UG Projects:
  - Developing Machine Learning Based Passenger Behaviour Model for the Davangere Bus Transit System.
- PG Projects: NIL

Funded Projects / Grants Received

- NIL