

Surendra Reddy Kancharla, Ph.D.

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Employment

- 2022 –  **Senior Research Associate**, “Friedrich List” Faculty of Transport and Traffic Sciences, Technische Universität Dresden.
- 2021 – 2022  **Postdoctoral Researcher**, Lyles School of Civil Engineering, Purdue University.
- 2019 – 2020  **Senior Project Officer**, Center for Industrial Consultancy and Sponsored Research, Indian Institute of Technology Madras.
- 2014 – 2019  **Teaching and Research Assistant**, Department of Civil Engineering, Indian Institute of Technology Madras.

Education





- 2013 – 2020  **M.Tech. & Ph.D.** in Civil Engineering
Indian Institute of Technology Madras, Chennai, India
Thesis title: *Vehicle Routing Problems in Sustainable Urban Freight Transport: Model Formulations and Solution Algorithms*
- 2009 – 2013  **B.Tech.** in Civil Engineering
Sri Venkateswara University, Tirupati, India

Awards and Achievements

- 2020  **K. Ganesh and Meena Ganesh scholarship for entrepreneurship development**, Indian Institute of Technology Madras.
- 2019  **Institute Research Award**, Indian Institute of Technology Madras.
- 2016 & 2018  **Student Travel Grant**, Indian Institute of Technology Madras.
- 2017  **Alumni Funded Travel Grant**, Indian Institute of Technology Madras.
- 2015  **Study Visit Grant to visit The University of Melbourne, Australia**, Volvo Research & Educational Foundations (VREF), Sweden.
- 2012  **2nd prize** in paper presentation event as part of TRACE 2k12 (XIII National Level Student Technical Symposium), RGM CET, Nandyala.
- 2011  **3rd prize** in paper presentation event as part of Tathva '11 (Techno Management Fest), NIT Calicut.

Research Publications

Journal Articles

-  **Kancharla, S. R.**, Woensel, T. v., Waller, S. T., & Ukkusuri, S. V. (2024). Meal delivery routing problem with stochastic meal preparation times and customer locations. *Networks and Spatial Economics*, 24, 997–1020.  doi:10.1007/s11067-024-09643-1
-  Hamim, O. F., **Kancharla, S. R.**, & Ukkusuri, S. V. (2023). Mapping sidewalks on a neighborhood scale from street view images. *Environment and Planning B: Urban Analytics and City Science*, 51(4), 823–838.  doi:10.1177/23998083231200445

- 3 Middela, M. S., Srinath, M., **Kancharla, S. R.**, Gitakrishnan, R., Rokom, P., Subrahmanya Kiran, S., & Gayathri, D. (2022). Complete LCA of battery electric and Bharat Stage-VI vehicles for freight trips. *Transportation Research Part D: Transport and Environment*, 110, 103398. [doi:10.1016/j.trd.2022.103398](https://doi.org/10.1016/j.trd.2022.103398)
- 4 **Kancharla, S. R.**, & Gitakrishnan, R. (2020a). Electric vehicle routing problem with non-linear charging and load-dependent discharging. *Expert Systems With Applications*, 160, 113714. [doi:10.1016/j.eswa.2020.113714](https://doi.org/10.1016/j.eswa.2020.113714)
- 5 **Kancharla, S. R.**, & Gitakrishnan, R. (2020b). Simulated Annealing Algorithm for Multi Depot Two-Echelon Capacitated Vehicle Routing Problem. *European Transport*, (78). [doi:10.48295/ET.2020.78.8](https://doi.org/10.48295/ET.2020.78.8)
- 6 **Kancharla, S. R.**, & Gitakrishnan, R. (2019a). Multi-depot Two-Echelon Fuel Minimizing Routing Problem with Heterogeneous Fleets: Model and Heuristic. *Networks and Spatial Economics*, 19(3), 969–1005. [doi:10.1007/s11067-018-9437-7](https://doi.org/10.1007/s11067-018-9437-7)
- 7 **Kancharla, S. R.**, & Gitakrishnan, R. (2018a). An Adaptive Large Neighborhood Search Approach for Electric Vehicle Routing with Load-Dependent Energy Consumption. *Transportation in Developing Economies*, 4(2), 10. [doi:10.1007/s40890-018-0063-3](https://doi.org/10.1007/s40890-018-0063-3)
- 8 **Kancharla, S. R.**, & Gitakrishnan, R. (2018b). Incorporating driving cycle based fuel consumption estimation in green vehicle routing problems. *Sustainable Cities and Society*, 40, 214–221. [doi:10.1016/j.scs.2018.04.016](https://doi.org/10.1016/j.scs.2018.04.016)

Conferences

- 1 Fernandez, P., **Kancharla, S. R.**, Lin, D.-Y., & Waller, S. T. (2025). Decomposing Urban Traffic Flows: A Multi-Stage Approach to Model Heavy Vehicle Movements in Greater Sydney. In *104th annual meeting of the transportation research board*, Washington D.C., USA.
- 2 **Kancharla, S. R.**, Fatima, A. A., & Satish, V. U. (2023). Sentiment Analysis of COVID related transit policies using Twitter data in Africa: A case study of Lagos. In *102nd annual meeting of the transportation research board*, Washington D.C., USA.
- 3 **Kancharla, S. R.**, & Gitakrishnan, R. (2019b). Simulated Annealing Algorithm For Multi Depot Two- Echelon Capacitated Vehicle Routing Problem. In *98th annual meeting of the transportation research board*, Washington D.C., USA.
- 4 Middela, M. S., Srinath, M., Subrahmanya Kiran, S., **Kancharla, S. R.**, Gayathri, D., & Gitakrishnan, R. (2019). Estimating Emissions from Urban Freight Trips. In *15th world conference on transport research - wctr 2019*, Mumbai, India.
- 5 Gitakrishnan, R., **Kancharla, S. R.**, & Manju, M. M. (2018). Electric Future for Buses? Influence of Size, Battery Capacity, and Route Length. In *2018 informs international conference*, Taipei, Taiwan.
- 6 **Kancharla, S. R.**, & Gitakrishnan, R. (2018c). Load Dependent Electric Vehicle Routing Problem With Time Windows Considering Nonlinear Charging Function. In *6th informs transportation science and logistics (tsl) society workshop*, Hong Kong.
- 7 **Kancharla, S. R.**, & Gitakrishnan, R. (2018d). Multi-depot Electric Vehicle Routing Problem with Time Windows considering Non-linear Charging and Discharging. In *2018 annual meeting of the institute for operations research and the management sciences (informs)*, Phoenix, USA.

- 8 **Kancharla, S. R.**, & Gitakrishnan, R. (2017a). An Adaptive Large Neighbourhood Search Approach for Electric Vehicle Routing with Load-dependent Energy Consumption. In *4th conference of the transportation research group of india*, Mumbai, India.
- 9 **Kancharla, S. R.**, & Gitakrishnan, R. (2017b). Incorporating Driving Cycle Based Fuel Estimation For Green Vehicle Routing Problem. In *96th annual meeting of the transportation research board*, Washington D.C., USA.
- 10 **Kancharla, S. R.**, & Gitakrishnan, R. (2016). Multi-depot Two Echelon Pollution Minimizing Routing Problem with Heterogeneous Vehicles. In *2016 annual meeting of the institute for operations research and the management sciences (informs)*, Nashville, USA.

Miscellaneous

Academic Services

- Reviewer for Journal of Big Data Analytics in Transportation - Expert Systems with Applications - Computers & Industrial Engineering - Computers & Operations Research - IEEE Transactions on Vehicular Technology - Environmental Science and Pollution Research - Journal of The Institution of Engineers (India): Series A - Transportation Research Record - Sustainable Cities and Society - Sustainability - Mathematics - Scientific Reports - Transportmetrica B: Transport Dynamics - Applied Sciences - Engineering Applications of Artificial Intelligence - Transportation Research Part E - Swarm and Evolutionary Computation - Supply Chain Analytics.
- Friend of TRB Committee on Freight Transportation Planning and Logistics (AT015)
- Friend of TRB Committee on Urban Freight Transportation (AT025)
- Friend of TRB Committee on Freight Transportation Data (AED70)
- Friend of TRB Committee on Transportation Network Modeling (AEP40)
- Friend of TRB Committee on Visualization in Transportation (AED80)
- Friend of TRB Committee on Equity in Transportation (AME10)
- Friend of TRB Committee on Artificial Intelligence and Advanced Computing Applications (AED50)

Leadership Activities

- 2014 – 2015 ■ **Postgraduate Department Coordinator**, Mentoring for individual TRansformation (MiTR), Indian Institute of Technology Madras.
- 2011 – 2012 ■ **Civil Engineering Association Secretary**, Department of Civil Engineering, K.S.R.M. College of Engineering.

Skills

- Coding ■ Python (NumPy, NetworkX, Pandas, PyTorch, CuPy, Flask), CUDA C, R, Java, L^AT_EX, GAMS
- Optimization ■ CPLEX, GUROBI
- Web Dev. ■ HTML, CSS, JavaScript
- Misc. ■ MySQL, QGIS, PTV VISSIM, aimsun