Surendra Reddy Kancharla, Ph.D.

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Employment

2022 – ···· **Postdoctoral Researcher**, "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), RGMCET, Nandyala.

2011 **3rd prize** in paper presentation event as part of Tathva '11 (Techno Management Fest), NIT Calicut.

Research Publications

Journal Articles

1. **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*, *Accepted/ In press*, 1–24. doi:10.1007/s11067-024-09643-1

2. 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*, *0*(0), 23998083231200445. 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

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

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

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

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

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

Conferences

1. **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 *102th annual meeting of the transportation research board*, Washington D.C., USA.

2. **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.

3. 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.

4. 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.

5. **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.

6. **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.

7. **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.

8. **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.

9 **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.
- 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)

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, LaTeX, GAMS

Optimization — CPLEX, GUROBI

Web Dev. — HTML, CSS, JavaScript

Misc. — MySQL, QGIS, PTV VISSIM, aimsun