Surendra Reddy Kancharla, Ph.D.

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Employment

2022 – ····	**Postdoctoral Research Associate**, "Friedrich List" Faculty of Transport and Traffic Sciences, Technische Universität Dresden.
2021 – 2022	**Postdoctoral Research Assistant**, 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. 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

2. **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

3   **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`

4   **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`

5   **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`

6   **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
- 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, Apache Web Server
Misc.	MySQL, QGIS, PTV VISSIM, aimsun