





# 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  **2<sup>nd</sup> prize** in paper presentation event as part of TRACE 2k12 (XIII National Level Student Technical Symposium), RGM CET, Nandyala.
- 2011  **3<sup>rd</sup> prize** in paper presentation event as part of Tathva '11 (Techno Management Fest), NIT Calicut.

## Research Publications

### Journal Articles

- 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*, 0(0), 23998083231200445.  doi:[10.1177/23998083231200445](https://doi.org/10.1177/23998083231200445)
- 2 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)

- 3 **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)
- 4 **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)
- 5 **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)
- 6 **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)
- 7 **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 **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 *102<sup>th</sup> 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 *98<sup>th</sup> 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 *15<sup>th</sup> 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 *6<sup>th</sup> 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 *4<sup>th</sup> 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 *96<sup>th</sup> 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

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### 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, L<sup>A</sup>T<sub>E</sub>X, GAMS
- Optimization ■ CPLEX, GUROBI
- Web Dev. ■ HTML, CSS, JavaScript, Apache Web Server
- Misc. ■ MySQL, QGIS, PTV VISSIM, aimsun