




Surendra Reddy Kancharla, Ph.D.

✉ surendra@purdue.edu, surendrareddy.kancharla@gmail.com



🌐 <http://surendrark.github.io/>

🌐 <https://www.linkedin.com/in/surendrark92/>

Employment

- 2021 –  **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), RGM CET, Nandyala.
- 2011  **3rd prize** in paper presentation event as part of Tathva '11 (Techno Management Fest), NIT Calicut.

Research Publications

Journal Articles

- 1 Siddartha, M. M., 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*, (Accepted, In Press).
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.scs.2018.04.016)

Journal Articles (Under review)

- 1 **Kancharla, S. R., Satish, V. U., & Tom, V. W.** (2022). *The Meal Delivery Routing Problem: Model and Heuristics*. European Journal of Operational Research.

Conferences

- 1 **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.
- 2 Siddartha, M. M., 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.
- 3 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.
- 4 **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.
- 5 **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.
- 6 **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.
- 7 **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.
- 8 **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
- 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, R, Java, L ^A T _E X, GAMS |
| Optimization | ■ CPLEX, GUROBI |
| Web Dev. | ■ HTML, CSS, JavaScript, Apache Web Server |
| Misc. | ■ MySQL, QGIS, PTV VISSIM, aimsun |