

## SURENDRA REDDY KANCHARLA

📍 BSB 238, IIT Madras, Chennai – 36, India  
☎ +91-778-011-7732

✉ surendrareddy.kancharla@gmail.com  
🌐 <https://sites.google.com/view/srk92>

### EDUCATION

**Integrated M.Tech and PhD** Indian Institute of Technology Madras 2013-2019\*  
Chennai, Tamil Nadu, India (\*- expected)

**Bachelor of Technology** Sri Venkateswara University 2009-2013  
Tirupati, Andhra Pradesh, India

### AWARDS

1. Merit-based monthly scholarship from the Ministry of Human Resource Development, Govt. of India, Jan 2014 - Jul 2019.
2. Study visit grant from Volvo Research & Educational Foundations (VREF), Sweden, to visit The University of Melbourne, Australia, March 2015.
3. Institute research award in recognition of quality and quantity of research work done from the Indian Institute of Technology Madras, 2018-19.

### RESEARCH PROJECTS

**Integrated M.Tech and PhD** July 2013- June 2019  
*“Vehicle Routing Problems in Sustainable Urban Freight Transport: Model Formulations and Solution Algorithms”*  
Guide : Dr. Gitakrishnan Ramadurai, Associate Professor, Department of Civil Engineering, IIT Madras.

**Bachelor of Technology** Sep. 2009 - May 2013  
*“Web Based Civil Engineering Calculator”*  
Guide : Prof. A. Mohan, Professor and Head, Department of Civil Engineering, K.S.R.M College of Engineering.

### PROFESSIONAL EXPERIENCE

**Indian Institute of Technology Madras** July 2014 - June 2019  
**Position: Research Assistant.**

1. *Sustainable Urban Freight Strategies* Jan. 2018 - Present  
Principal Investigator: Dr. Gitakrishnan Ramadurai, Associate Professor, Department of Civil Engineering, IIT Madras

2. *Developing a Comprehensive Planning Framework for Urban Freight in Chennai*  
July 2016 - June 2017  
*Principal Investigator:* Dr. Gitakrishnan Ramadurai, Associate Professor, Department of Civil Engineering, IIT Madras
3. *Black Spot Study in Tamil Nadu*  
July 2016 - Jan. 2017  
*Principal Investigator:* Dr. Gitakrishnan Ramadurai, Associate Professor, Department of Civil Engineering, IIT Madras

**Position: Teaching assistant**

1. Computer Application in Traffic and Highway Engineering (UG level)  
July 2014 - Nov. 2014 & July 2015 - Nov. 2015
2. Transportation Engineering - II (UG level)  
Jan. 2018 - May 2018
3. Analytical Techniques in Transportation Engineering (PG level)  
Jan. 2019 - May 2019

**The University of Melbourne**

Nov. 2015 - Dec. 2015

**Position: Academic Visitor**

1. *Simulated annealing algorithm for Two-Echelon Capacitated Vehicle Routing Problem (2E-CVRP)*  
*Worked with:* A/Prof. Russell Thompson, Department of Infrastructure Engineering, The University of Melbourne, Australia.

**STUDENT MENTORING**

1. Dheeraj Reddy Endela (Dual B.Tech and M.Tech)  
Thesis: Emergency Vehicle Location and Routing  
June 2015 - May 2016
2. Arun N. H (M.Tech)  
Thesis: Characterization of Emissions and Driving Cycle Using On-Board Measurements  
June 2015 - May 2016
3. Subrahmanya Kiran Sripada (Dual B.Tech and M.Tech)  
Thesis: Modelling of urban freight transport  
June 2016 - May 2017

**SOFTWARE SKILLS**

Languages: Python, R, Java, CSS, HTML, GAMS  
Optimization Tools: CPLEX, GUROBI  
Transportation Softwares: PTV VISSIM, AIMSUN  
Office Suites: Microsoft Office, LaTeX.

## PUBLICATIONS

### Refereed Journal Publications

1. **Kancharla, S.R.**, G. Ramadurai. Multi-depot Two-Echelon Fuel Minimizing Routing Problem with Heterogeneous Fleets: Model and Heuristic. *Networks and Spatial Economics*. pp 1-37, DOI:10.1007/s11067-018-9437-7.
2. **Kancharla, S.R.**, G. Ramadurai. An Adaptive Large Neighborhood Search Approach for Electric Vehicle Routing with Load-Dependent Energy Consumption. *Transportation in Developing Economies*. Vol. 4, pp.10, DOI: 10.1007/s40890-018-0063-3.
3. **Kancharla, S.R.**, G. Ramadurai. Incorporating driving cycle based fuel consumption estimation in green vehicle routing problems. *Sustainable Cities and Society*. Vol. 40, pp. 214-221, DOI: 10.1016/j.scs.2018.04.016.

### Refereed Journal Under review

1. **Kancharla, S.R.**, G. Ramadurai. A MILP model and an Adaptive Large Neighborhood Search Heuristic for Electric Vehicle Routing Problem with Non-linear Charging. *Transportation Research Part E: Logistics and Transportation Review* (under review).
2. **Kancharla, S.R.**, G. Ramadurai. Simulated Annealing Algorithm For Multi Depot Two-Echelon Capacitated Vehicle Routing Problem. *European Transport Trasporti Europei* (under review).

### International Conferences

1. Siddartha, M. M., S. Mahesh, S. K. Sripada, **S. R. Kancharla**, G. Devi, G. Ramadurai. Estimating Emissions from Urban Freight Trips. *15<sup>th</sup> World Conference on Transport Research - WCTR 2019*, Mumbai, India, 26-31 May 2019.
2. **Kancharla, S.R.**, G. Ramadurai. Simulated Annealing Algorithm For Multi Depot Two-Echelon Capacitated Vehicle Routing Problem. *98<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington D.C., USA, 13-17 Jan 2019.
3. **Kancharla, S.R.**, G. Ramadurai. Multi-depot Electric Vehicle Routing Problem with Time Windows considering Non-linear Charging and Discharging. *2018 Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS)*, Phoenix, USA, 04-07 Nov 2018.
4. Ramadurai, G., **S.R. Kancharla**, M. Manohar. Electric Future for Buses? Influence of Size, Battery Capacity, and Route Length. *2018 INFORMS International Conference*, Taipei, Taiwan, 17-20 June 2018.
5. **Kancharla, S.R.**, G. Ramadurai. Load Dependent Electric Vehicle Routing Problem With Time Windows Considering Nonlinear Charging Function. *6<sup>th</sup> INFORMS Transportation Science and Logistics (TSL) Society Workshop*, Hong Kong, 08-10 Jan 2017.

6. **Kancharla, S.R.**, G. Ramadurai. An Adaptive Large Neighbourhood Search Approach for Electric Vehicle Routing with Load-dependent Energy Consumption. *4<sup>th</sup> Conference of the Transportation Research Group of India*, Mumbai, India, 17-20 Dec 2017.
7. **Kancharla, S.R.**, G. Ramadurai. Incorporating Driving Cycle Based Fuel Estimation For Green Vehicle Routing Problem. *96<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington D.C., USA, 08-12 Jan 2017.
8. **Kancharla, S.R.**, G. Ramadurai. Multi-depot Two Echelon Pollution Minimizing Routing Problem with Heterogeneous Vehicles. *2016 Annual Meeting of the Institute for Operations Research and the Management Sciences*, Nashville, USA, 13-16 Nov 2016.

## POSITIONS HELD

1. Post Graduate level department coordinator in *Mentoring for Individual TRansformation* (MITR), Department of Civil Engineering, IIT Madras, July 2014-June 2015.
2. Civil Engineering Association Student Secretary, Department of Civil Engineering, K.S.R.M. College of Engineering, July 2011- June 2012