

## SURENDRA REDDY KANCHARLA

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### EDUCATION

**M.Tech and PhD Dual Degree** Indian Institute of Technology Madras 2013-2019  
**CGPA - 8.13** Chennai, Tamil Nadu, India

**Bachelor of Technology** Sri Venkateswara University 2009-2013  
**CGPA- 8.45** Tirupati, Andhra Pradesh, India

### 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*. Vol. 19 (3), pp. 969–1005, 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, 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. Electric Vehicle Routing Problem with Non-Linear Charging and Load-Dependent Discharging. *Expert Systems with Applications* (under review).
2. **Kancharla, S.R.**, G. Ramadurai. Simulated Annealing Algorithm For Multi Depot Two-Echelon Capacitated Vehicle Routing Problem. *European Transport* (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.

## RESEARCH PROJECTS

### M.Tech and PhD Dual Degree

*“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

*“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

### Center for Industrial Consultancy and Sponsored Research, IIT Madras

Aug. 2019 - Present

**Position: Senior Project Officer.**

1. *Implementation Roadmap for Sustainable Urban Freight Mobility in Chennai*  
Aug. 2019 - Present  
*Principal Investigator:* Dr. Gitakrishnan Ramadurai, Associate Professor, Department of Civil Engineering, IIT Madras

### Indian Institute of Technology Madras

Jan. 2014 - June 2019

**Position: Research Assistant.**

1. *Implementation Roadmap for Sustainable Urban Freight Mobility in Chennai*  
Jan. 2018 - June 2019  
*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**

*Worked with:* A/Prof. Russell Thompson, Department of Infrastructure Engineering, The University of Melbourne, Australia.

## HONORS/AWARDS

1. Institute research award in recognition of the exemplary research work done by the scholar during the period of his research from the Indian Institute of Technology Madras, 2019.
2. Study visit grant from Volvo Research & Educational Foundations (VREF), Sweden, to visit The University of Melbourne, Australia, March 2015.

3. Merit-based monthly scholarship from the Ministry of Human Resource Development, Govt. of India, Jan 2014 - Jul 2019.
4. Received 2<sup>nd</sup> prize in paper presentation event as part of TRACE 2k12 (XIII National Level Student Technical Symposium), RGM CET, Nandyala, Sep. 2012.
5. Received 3<sup>rd</sup> prize in paper presentation event as part of Tathva '11 (Techno Management Fest), NIT Calicut, Oct. 2011.
6. Post Graduate department coordinator for *Mentoring for individual TRansformation* (MiTR), Department of Civil Engineering, IIT Madras, July 2014-June 2015.
7. Civil Engineering Association Student Secretary, Department of Civil Engineering, K.S.R.M. College of Engineering, July 2011- June 2012

## STUDENT MENTORING

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

## SOFTWARE SKILLS

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