

# Rushikesh B. Amrutsamanvar

PH.D. CANDIDATE · DRIVER BEHAVIOR MODELING, INTELLIGENT TRANSPORTATION SYSTEMS

Research Scholars Laboratory (BSB-238), Building Science Block, Indian Institute of Technology Madras

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## Education

### Indian Institute of Technology Madras (IITM)

Tamilnadu, India

PH.D. IN CIVIL ENGINEERING (TRANSPORTATION ENGINEERING)

July 2013 - July 2020

#### Thesis Submitted

- Modeling of Power Two Wheeler Movements in Multi-Class Disordered Traffic
- Advisor: Dr. Lelitha Devi Vanajakshi
- Coursework CGPA: 7.5

### Sardar Valabhbhai National Institute of Technology, Surat (SVNIT)

Gujrat, India

M.TECH (TRANSPORTATION ENGINEERING & PLANNING)

July 2011 - 2013

- Assesment of Travel Time Reliability on Indian Arterial Roads
- Advisor: Dr. Gaurang J. Joshi & Dr. Chalumuri Ravisekhar
- Coursework CGPA: 8.54

### Shivaji University, Kolhapur

Maharashtra, India

BACHELOR OF ENGINEERING (CIVIL ENGINEERING)

July 2005 - 2009

- First Class: 65.76%
- Undergraduate Project: Evaluating the Performance of Geopolymer Concrete for Construction Works in India

### Government Polytechnic, Kolhapur

Maharashtra, India

DIPLOMA IN CIVIL ENGINEERING

July 2002 - 2005

- First Class with Distinction: 65.44%

### Shri Shahu Highschool, Kagal

Maharashtra, India

HIGHER SECONDARY SCHOOLING (MAHARASHTRA STATE BOARD: MARATHI MEDIUM)

July 2002

- Percantage Marks Scored : 70.13%

## Skills

**Programming** Matlab, R

**Softwares** SPSS, VISSIM, MX-Road, Inkscape, Carmaker (elementry)

**Office Suites**  $\LaTeX$ , Microsoft Office, Libre Office

**Languages** English, Hindi, and Marathi

## Experience

### Sankalp Construction

Ichalkaranji, Maharashtra

ENGINEER TRAINEE & SITE ENGINEER

July 1, 2009 - March 31, 2011

### Central Road Research Institute (CRRI), India

New Delhi, India

RESEARCH INTERN (TRAFFIC AND PLANNING ENGINEERING LAB)

May. 2012 - July. 2012

- Advisor: Dr. Chalumuri Ravisekhar
- Worked for the project of development of Indian Highway Capacity Manual (Indo-HCM)
- Head of the field survey group
- Planning and execution of multiple field surveys for different research groups from Traffic and Planning Engineering lab

### Central Road Research Institute (CRRI), India

New Delhi, India

GRADUATE RESEARCH (TRAFFIC AND PLANNING ENGINEERING LAB)

November, 2012 - April, 2013

- Advisor: Dr. Chalumuri Ravisekhar
- Selected for carrying out the graduate research work for the Development of the Highway capacity manual of India (Indo-HCM: Work Package-9). The project was sponsored by Planning commission, Government of India.
- Received appreciation certificate, and name is included in the working team of Indo-HCM:Work Package-9

- CE6780: Traffic Engineering and Management (Even semester-2015, 2016, 2017)
- CE5740: Traffic Flow Theory (Odd semester-2015, 2016, 2017)
- CE5730: Intelligent Transportation Systems (Even semester 2015, 2016, 2017)
- Worked as coordinator for summer interns (B.Tech and M.Tech) in Department of Civil Engineering (2017 & 2018)

## Publications

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### Journal Publications

- **Amrutsamanvar R.**, Muthurajan, B., and Vanajakshi, L. (2019) Extraction and Analysis of Microscopic traffic Data in Disordered Heterogeneous Traffic Conditions, *Transportation letters*.  
[DOI: 10.1080/19427867.2019.1695563](https://doi.org/10.1080/19427867.2019.1695563)
- **Amrutsamanvar R.** (2020) Modeling Lateral Movement Decisions of Powered Two Wheelers in Disordered Heterogeneous Traffic Conditions, *Transportation letters*.  
[DOI: 10.1080/19427867.2020.1839718](https://doi.org/10.1080/19427867.2020.1839718)
- Deshpande P. **Amrutsamanvar, R.** and Subramanian S. (2020) Vehicle Path Generation and Tracking in Mixed Road Traffic. *IFAC-PapersOnLine*, 53(1), 524-529.  
[DOI: 10.1016/j.ifacol.2020.06.088](https://doi.org/10.1016/j.ifacol.2020.06.088)
- Chepuri, A., Borakanavar, M., **Amrutsamanvar, R.**, Arkatkar, S., Joshi, G. (2018) Examining Travel Time Reliability under Mixed Traffic Conditions - A Case Study of Urban Arterial Roads in Indian cities. *Asian Transport Studies*: 5(1), 30-46.  
[DOI: 10.11175/eastsats.5.30](https://doi.org/10.11175/eastsats.5.30)

### Conference- Book Chapters

- **Amrutsamanvar, R.**, Joshi, G., Ravisekhar C., Arkatkar S. (2020) Empirical Travel Time Reliability Assessment of Indian Urban Roads. In: *Arkatkar S., Velmurugan S., Verma A. (eds) Recent Advances in Traffic Engineering. Lecture Notes in Civil Engineering*, vol 69 (11), pp. 165-182, Springer, Singapore.  
[DOI: 10.1007/978-981-15-3742-4\\_11](https://doi.org/10.1007/978-981-15-3742-4_11)

### International Conferences

- **Amrutsamanvar, R.**, Vanajakshi L. (2021) Staggered Vehicle Following Model for Multi-Class Disordered Traffic Conditions. *100<sup>th</sup> Annual Meeting Transportation Research Board*, Washington DC, USA.  
[\(Under Review\)](#)
- **Amrutsamanvar, R.**, Vanajakshi L. (2019) Modeling Path Choice Behavior of Powered-Two-Wheelers in Disordered Heterogeneous Traffic. *Presented In: 98<sup>th</sup> Annual Meeting Transportation Research Board*, Washington DC 12-17 January, 2019.
- **Amrutsamanvar, R.**, Vanajakshi L. (2017) Empirical Analysis of disordered heterogeneous traffic flow. *Presented In: ASCE India Conference: Urbanization Challenges in Emerging Economies*, New Delhi, India 12-14 December, 2017.
- Dhivyabharathi, B., Fulari, S., **Amrutsamanvar, R.**, Vanajakshi L., Subramanian, S., and Panda, M. (2015) Performance Comparison of Filtering Techniques for Real Time Traffic Density Estimation under Indian Urban Traffic Scenario. *In proceedings: IEEE 18<sup>th</sup> International Conference on Intelligent Transportation Systems (ITSC)*, Gran Canaria, Spain: September 15-18, 2015.  
[DOI:10.1109/ITSC.2015.23](https://doi.org/10.1109/ITSC.2015.23)
- **Amrutsamanvar, R.**, Joshi, G., Ravisekhar C. (2013) Relation between Travel Time Reliability and Space Mean Speed under Mixed Traffic Conditions - A Case Study of Urban Arterial in Surat. *10<sup>th</sup> EASTS conference on "Towards a harmonized transport society"*, Taipei, Taiwan: 9-12 December, 2013.

### Domestic Conferences

- **Amrutsamanvar, R.**, Joshi, G., Ravisekhar C., Arkatkar S. (2018) Empirical Travel Time Reliability Assessment of Indian Urban Roads. *Presented in : Recent Advances in Traffic Engineering* Surat, India: 11-12 August 2018.
- **Amrutsamanvar, R.**, Vanajakshi L. (2017) A Semi-Automated Image Processing Solution for Extracting Microscopic Traffic Data. *Presented In: 10<sup>th</sup> Urban Mobility India and CODATU XVII Conference*, Hyderabad, India 6-8 November, 2017.
- Fulari S., **Amrutsamanvar, R.**, Raj V., Vanajakshi L. (2014) Delay Estimation on Urban Arterials Using Vehicle Based Sensor Data. *Presented in : Colloquium on Transportation Systems Engineering and Management* Calicut, India: May 2014.

## Extracurricular Activity

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### Indian Institute of Technology, Madras

Chennai, India

July 2013 - present

- Worked as a member of the volunteering committee in various workshops taking place in the department

### Sardar Valabhbhai National Institute of Technology (SVNIT)

Surat, India

July 2011- 2013

- Worked as a member of the volunteering committee in various workshops taking place in the department under TEQIP.
- Core committee member in the organization of domestic conference named RATE 2012 in the department.

### Shivaji University (KIT's college of Engineering, Kolhapur)

Kolhapur, India

July 2005- 2009

- Selected as a member of STUDENT DISCIPLINE COUNCIL of KIT's College of Engineering for the sessions 2007-08 and 2008-09
- Worked as an organizer in the committee of PIONEER-2007 (A National Level Technical Paper Presentation Competition)- 2006-07
- Worked as an organizer in the committee of PIONEER-2008 (A National Level Technical Paper Presentation Competition)- 2007-08
- Presented a Technical Paper in PIONEER-2008 (A National Level Technical Paper Presentation Competition)- 2007-08
- Participated in various events CEA-2007 (A National Level Technical Competition) at Indian Institute of Technology Madras 2006-07
- Participated in various events AAKAR-2007 (A National Level Technical Competition) at Walchand Collage of Engineering, Sangli India 2006-07
- Participated in various events CEA-2008 (A National Level Technical Competition) at Indian Institute of Technology Madras 2007-08
- Participated in various events AAKAR-2008 (A National Level Technical Competition) at Walchand Collage of Engineering, Sangli India 2007-08

### Shri Shahu Highschool, Kagal

Kagal, India

July 1998- 2001

- Selected as a cadet for National Cadet Corps (NCC): C Certificate
  - Indian Army Division, 5 maharashtra battalion kolhapur (Maratha Light Infantry)
- Selected for Annual Training Camp as a cadet in Kolhapur
- Selected for official NCC parade at district office (2000 & 2001)

## Achievements & Awards

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2017 **Best Research Paper Award**, in 10<sup>th</sup> Urban Mobility India and CODATU XVII Conference for the research paper titled- "A Semi-Automated Image Processing Solution for Extracting Microscopic Traffic Data"

Hyderabad, India

2020 **Best Presentation Award**, in 6<sup>th</sup> Conference on Advances in Control and Optimization of Dynamical Systems (ACODS 2020) for the research paper titled- "Vehicle Path Generation and Tracking in Mixed Road Traffic."

Chennai, India