Venktesh Pandey

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OBJECTIVE

Seeking internship opportunities for Summer 2017 in the areas of using optimal control, estimation, and filtering techniques in the field of transportation engineering and traffic operations.

EDUCATION

Doctor of Philosophy, Department of Civil, Architectural, and Environmental Engineering 08/2019
(Transportation Engineering with certification in Engineering Education) (Expected)
The University of Texas at Austin

Master of Science, Department of Civil, Architectural, and Environmental Engineering 08/2016
(Transportation Engineering)
The University of Texas at Austin **GPA: 3.96/4.00**
Master's Thesis: Determining Optimal Dynamic Pricing for Managed Lanes with Multiple Entrances and Exits
Awarded Milton Pikarsky Award for Outstanding Master's Thesis in Science and Technology, 2016

Bachelor of Technology with Honors, Department of Civil Engineering 05/2014
(Minor- Center of Studies in Resource Engineering)
Indian Institute of Technology, Bombay **GPA: 9.54/10.00**
Undergraduate Thesis: Developing Simulation model for Indian road networks using TRANSIMS

WORK EXPERIENCE

Graduate Research Assistant, The University of Texas at Austin **09/2014-Present**

Operational effectiveness of Active Traffic Management (ATM) strategies for Texas corridors, TxDOT 0-6859 (01/2015-Present)

- Calibrated and validated a large scale network (area 240 sq. km) in a mesoscopic simulator for dynamic traffic assignment, VISTA
- Integrated the results with microsimulation model of the corridor in VISSIM to develop a hybrid microsimulation-DTA model
- Simulated four different ATM strategies on multiple test networks and developed statistical models to quantify effectiveness of each strategy under different levels of data availability

Decentralized modeling of large scale transportation networks for consistent statewide planning models, NSF Grant no. 1254921; TxDOT 0-6900 (09/2014-Present)

- Programmed and tested an improved decentralized algorithm to perform traffic assignment on large scale networks offering 35-70% improvement in computation time for the Austin regional network
- Quantified the level of inconsistency between inputs and outputs of Texas statewide model and Austin planning model; currently working on methods to improve the consistency

Research Intern, Future Cities Laboratory Singapore **05/2013-07/2013**

Developing Traffic Signal Meta model in MATSIM

- Improved the meta-model of incorporating signal delays in agent based simulation software, MATSIM, by handling agent arrival events at an intersection using 1000+ lines of Java code, leading to a 10% reduction in computation time

SKILLS

Proficient in Java, MATLAB, LaTeX, PTV-VISSIM, Microsoft office, ArcGIS, NetBeans IDE
Experience in C/C++, VISTA (DTA Simulator), TRANSIMS, MATSIM, SPSS, ERDAS, HTML/CSS, MySQL, COM-Interface

LEADERSHIP EXPERIENCE

Vice President, Institute of Transportation Engineers, Student Chapter UT-Austin **11/2014-10/2015**

- Initiated and assisted in increased number of technical tour, guest speaker and social events of the chapter, leading it to win the Texas District Outstanding Student Chapter Award 2015
- Served as organizing committee member of the inaugural TexITE Student Leadership Summit 2015

Overall Project Coordinator, Association for India's Development, Austin Chapter **08/2015-Present**

- Managed the process of approving funds worth $20k to different non-profit organizations' projects in the area of healthcare, education, and social empowerment
- Headed the team of 15 people to organize a music concert as fundraiser attracting a footfall of 450+ attendees, leading to profits of more than $13k (09/2015)

Founding Manager, Abhyuday, Social Festival of IIT-Bombay **01/2014-04/2014**

- Launched first ever Social Festival of IIT-Bombay within a span of 100 days, attracting 5000+ participants from 80+ colleges across India to realize a new vision of creating social awareness among the youth
- Designed festival's flagship 'Action Plan' competition for hands-on learning through slum visits & workshops

AWARDS/HONORS

Recipient, Milton Pikarsky Award for Outstanding Master's Thesis in Science and Technology 2016
Recipient, ITS Texas Scholarship for Graduate Study in Intelligent Transportation Systems (ITS) 2015
Winner, Texas District Collegiate Traffic Bowl, Institute of Transportation Engineers 2015
Winner, Potential Professor Competition at Aakaar, Civil Engineering Festival of IIT Bombay 2014
Recipient, Undergraduate Research Award 2013, IIT Bombay 2013
Awarded Certificate of Merit, Indian National Mathematics Olympiad 2013
Recipient, National Talent Search Examination Scholarship (awarded to 700 applicants out of 300,000 by the Government of India) 2008

ACADEMIC WORK

Publications:

- Jafari, E., **V. Pandey**, and S. D. Boyles. A decomposition approach to the static traffic assignment problem. Submitted to *Transportation Research Part B: Methodological* August, 2016. *<Under second round of review>*
- Saxena N., **V. Pandey**, and G. R. Patil. Developing simulation model for urban road networks in developing countries using TRANSIMS, In proceedings of Conference on Agent-Based Modeling in Transportation Planning and Operations, Blacksburg, Virginia, October 2013.

Presentations:

- **Pandey V.** and S. D. Boyles (2016), Optimal dynamic pricing for managed lanes with multiple entrances and exits. Presented at Annual Meeting of the Institute for Operations Research and Management Sciences, Nashville, TN.

MISCELLANEOUS

[Relevant Coursework]: Stochastic Estimation and Control, Optimal Control theory, Markov Decision Process, machine learning, Transportation Network Analysis, Network Optimization, Advanced Theory of Traffic flow, Optimization techniques in Transportation engineering, Public Transportation Engineering, Transportation Systems Management, Discrete event system simulation, Traffic Analysis and Design.

[Professional Involvement]: Institute of Transportation Engineers (ITE); Intelligent Transportation Society of America (ITS-America); Transportation Research Board (TRB), Institute for Operations Research and Management Sciences, Transportation Science and Logistics Society (INFORMS-TSL).

[Mentorship roles]: **Graduate Research Mentor**, Graduates Linked with Undergraduates in Engineering (GLUE), Women in Engineering Program, UT Austin (01/2016-05/2016); **Head**, Department Academic Mentorship Program, Civil Engineering Department, IIT Bombay (08/2013-04/2014)

[Other]: Avid long distance runner; Completed three half marathons and training for a full marathon