Venktesh Pandey

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EDUCATION

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

Master of Science, The University of Texas at Austin — Aug 2016
Department of Civil, Architectural, and Environmental Engineering
Transportation Engineering

Bachelor of Technology with Honors, Indian Institute of Technology, Bombay — May 2014
Department of Civil Engineering; Minor- Center of Studies in Resource Engineering

WORK EXPERIENCE

Research Intern, IBM Research, Dublin, Ireland — **May 2018-Current**

- Assisted in developing algorithms for modeling competition in multi-company ride-sharing problem while working remotely and collaborating with an international team

Research Assistant, Center for Transportation Research, Austin — **May 2017-Aug 2017**

- Performed statistical analysis on the National performance management research data set (NPMRDS) and developed an online data interpretation interface in R-shiny to evaluate corridor performance metrics
- Collaborated with Texas Advanced Computing Center (TACC) in developing deep learning algorithms for automatic vehicle detection and safety quantification on intersection using traffic videos

Graduate Research Assistant, The University of Texas at Austin — **Aug 2014-Present**

- Tasks include: conducting research tasks for funded projects by agencies including Texas Department of Transportation, National Science Foundation, and North Central Texas Council of Governments; writing technical reports and delivering presentations; collaborating with other researchers and schedule management

Research Intern, Future Cities Laboratory Singapore — **May 2013-July 2013**

- 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

AWARDS/HONORS

Winner, Transportation Technology Tournament, Organized by National Operations Center of Excellence and the U.S. DOT ITS JPO PCB program — 2018

Recipient, Milton Pikarsky Award for Outstanding Master's Thesis in Science and Technology — 2017

Recipient, ITS Texas Scholarship for Graduate Study in Intelligent Transportation Systems (ITS) — 2015

Winner, Texas District Collegiate Traffic Bowl, Institute of Transportation Engineers — 2015

Recipient, Undergraduate Research Award 2013, IIT Bombay — 2013

Awarded Certificate of Merit, Indian National Mathematics Olympiad — 2013

ACADEMIC WORK

Selected Journal Publications:

1. **Pandey V.,** and Boyles, S. D. (2018). Dynamic pricing of managed lanes with multiple entrances and exits. *Transportation Research Part C: Emerging Technologies*, *96, 304-320.* https://doi.org/10.1016/j.trc.2018.09.017
2. **Pandey, V.**, and Ruiz-Juri, N. (2018). Using National performance management research data set (NPMRDS) for corridor performance measures: a US 281N corridor case study. *Transportation Research Record*. https://doi.org/10.1177/0361198118796972
3. Yahia, C., **Pandey, V.**, and Boyles, S. D. (2018). Network partitioning algorithms for solving the traffic assignment problems using a decomposition approach. *Transportation Research Record.* https://doi.org/10.1177/0361198118799039

4. Jafari, E., **Pandey, V.**, & Boyles, S. D. (2017). A decomposition approach to the static traffic assignment problem. *Transportation Research Part B: Methodological*, *105*, 270-296. https://doi.org/10.1016/j.trb.2017.09.011.

Selected Refereed Conference Proceedings:

1. **Pandey V.** and Boyles, S.D. (2018). Multiagent reinforcement learning model for distributed dynamic pricing of managed lanes. To be presented at 21st International IEEE Conference on Intelligent Transportation Systems (ITSC18), Lahaina, HI.
2. **Pandey V.** and Boyles, S. D. (2018). Dynamic pricing for managed lanes with multiple entrances and exits. Presented at 97th Annual Meeting of the Transportation Research Board, Washington, DC.
3. **Pandey V.,** Li, J., Yahia, C., and Boyles, S. D. (2018). Evaluation of active traffic management (ATM) strategies under recurring and non-recurring congestion: an IH-35 corridor case study. Presented at 97th Annual Meeting of the Transportation Research Board, Washington, DC.
4. **Pandey V.,** Xu, W., Huang, L., Liu, S., and Ruiz-Juri, N. (2018). Processing large-scale video data to support transportation safety, planning, and operations: a flexible approach to data storage and integration. Presented at 97th Annual Meeting of the Transportation Research Board, Washington, DC.

Technical Reports:

1. Boyles, S. D., Walton, C. M., Duthie, J., Jafari, E., Jiang, N., Khani, A., Li, J., Osorio, J., **Pandey, V.**, Rambha, T., and Yahia, C. (2017). A Planning Tool for Active Traffic Management Combining Microsimulation and Dynamic Traffic Assignment. Texas Department of Transportation Report FHWA/TX-17/0-6859-1.
2. Boyles, S. D., Bhat, C., Duthie, J., Jiang, N., Dias, F., Jafari, E., **Pandey, V.**, Singh, A., and Yahia, C. (2017). Methods for Improving Consistency between Statewide and Regional Planning Models. Texas Department of Transportation Report FHWA/TX-17/0-6900-1.

TEACHING EXPERIENCE

Teaching Assistant, Probability and Statistics, CE311S, The University of Texas at Austin [Fall 2017; Spring 2018]

- Taught lab sessions by designing activities and modules for student learning in R; Designed homework and online testing modules for grading assessment. Used classroom assessment techniques to monitor student learning progress
- Held weekly office hours and organized review sessions before the exams. Overall Teaching Assistant rating (4.3/5.0)

Teaching Assistant, IIT Bombay (Physics, Spring 2014; Differential Equations, Fall 2012)
Completed 80% of requirements for the certification in Engineering Education at the University of Texas at Austin

MENTORSHIP EXPERIENCE

Graduate Student Mentor, Graduate Linked with Undergraduates in Engineering (GLUE). UT Austin [Spring 2016; Fall 2017; Spring 2018; Fall 2018]

- Supervised and trained students in their sophomore and junior years for research in the field of active traffic management strategies and dynamic pricing
- Undergraduates mentored: Anne Jillian Monsanto, Jordan Hammond, Abigail Beck, Andres Najera

Undergraduate Thesis Supervisor, Christine Cheng Spring 2018

- Supervised the research conducted by Christine on value of time analysis for managed lanes

Head, Department Academic Mentorship Program, Civil Engineering Dept. IIT-Bombay [Aug 2013-May 2014]

- Spearheaded the team of 17 mentors in developing a support program for underperforming students with involvement from faculty advisors; Served as an academic mentor for 8 underperforming students in the Civil Engg. department

MISCELLANEOUS

[Leadership experience]: Vice President, Institute of Transportation Engineers, Student Chapter UT-Austin (Nov 2014- Oct 2015); Overall Project Coordinator, Association for India's Development, Austin Chapter (Aug 2015-Aug 2017); Founding Manager, Abhyuday, Social Festival of IIT Bombay (Jan 2014-May 2014)
[Skills]: Proficient in Java, MATLAB, R, LaTeX, PTV-VISSIM, Microsoft office, ArcGIS, NetBeans IDE, PostgreSQL. Experience in C/C++, Python, VISTA (DTA Simulator), TRANSIMS, MATSIM, SPSS, ERDAS, HTML/CSS, MySQL
[Miscellaneous]: Paper Referee**,** Transportation Research Board (TRB) annual meeting**;** Assisted in writing proposals funded by Texas Department of Transportation (TxDOT) and North Central Texas Council of Governments (NCTCOG)**;** Traffic Bowl Coach for the UT Austin Student Chapter team at the ITE International Collegiate Traffic Bowl Championship, 2017, 2018