AYUSH PANDEY

205 N. Mathews Ave. B156. Urbana, IL 61801
ayushp3@illinois.edu

EDUCATION

Ph.D. student, Civil and Environmental Engineering *Present*
University of Illinois Urbana-Champaign, IL
Master of Science, Civil and Environmental Engineering *December 2020*
University of Illinois Urbana-Champaign, IL
Bachelor of Technology, Civil Engineering *July 2019*
Indian Institute of Technology, Bombay, India

RESEARCH INTEREST

Traffic congestion, congestion pricing, transport economics and policy, transit operations, transit data.

PUBLICATIONS

Pandey, Ayush, Lewis Lehe, and Dana Monzer. 2021. "Distributions of Bus Stop Spacings in the United States." Findings, August. https://doi.org/10.32866/001c.27373.

Lehe, Lewis, Vikash V. Gayah, and **Ayush Pandey**. 2021. "Increasing Returns to Scale in Carpool Matching: Evidence from Scoop." Findings, June. https://doi.org/10.32866/001c.25093.

Lehe, Lewis, Sairpaneeth Devunuri, Javier Rondan, and **Ayush Pandey**. 2021. "Taxation of Ride-Hailing." Illinois Center for Transportation/Illinois Department of Transportation.

Lehe, Lewis J., and **Ayush Pandey**. 2020. "Hyperdemand: A Static Traffic Model with Backward-Bending Demand Curves." Economics of Transportation 24 (December). doi:10.1016/j.ecotra.2020.100182.

Lehe, Lewis J., and **Ayush Pandey**."Taxi service with heterogeneous drivers and a competitive medallion market." Journal of Urban Economics. *Under Review.*

Lehe, Lewis J., **Ayush Pandey**, and Alon Levy."Bus stop spacing with heterogeneous trip lengths and elastic demand." Transportation Research Part A: Policy and Practice. *Under Review.*

CONFERENCE PRESENTATIONS

Pandey, Ayush, and Lewis J. Lehe, "Equilibrium stability of multi-modal traffic in an urban zone". International Transportation Economics Association, Toulouse, 2022.

Lehe, Lewis J., **Ayush Pandey**, "The Taxicab Problem with heterogenous drivers". International Transportation Economics Association, 2021.

Lehe, Lewis J., **Ayush Pandey**, "Hypodemand: A static traffic model with backward-bending demand curves". International Transportation Economics Association Webinar, June 16, 2020.

Pandey, Ayush, Suman Dash, Gopal R. Patil, "Methodology to estimate the Critical Headway for Platooning on an Expressway". World Conference on Transport Research (WCTR), Mumbai, May 26-31, 2019.

Dash S., **Ayush Pandey**, Gopal R. Patil. "Traffic Flow Characteristics and Lane Change Behavior on Expressways in India". National Conference in Roads and Transport (NCORT) 2017, Roorkee, October 14-15, 2017.

Dash S., **Ayush Pandey**, Gopal R. Patil."Microscopic Analysis of Platoon Behavior on Indian Expressways". 10th Urban Mobility India Conference (UMI) 2017, Hyderabad, November 03-06, 2017.

TEACHING EXPERIENCE

University of Illinois Department of Civil and Environmental Engineering

Teaching Assistant

- CEE 498 TE*Transportation Economics*, Spring 2022.

Indian Institute of Technology, Bombay, Department of Civil Engineering

Teaching Assistant

- CE 102 *Engineering Mechanics*, Spring 2017.

Mentor

- *Institute Student Mentor*, Fall 2018 and Spring 2019.
- *Department Academic Mentor*, Fall 2016 to Spring 2019.

PRIOR RESEARCH EXPERIENCE

Investigation of driver behavior under adverse weather conditions
Supervisor: Prof. Babak Mehran, Summer 2018

- Done as part of MITACS Globalink internship at University of Regina, SK.
- CLeaned, combine and analyzed the data from a weather station and road traffic sensor in Alberta, Canada. Developed models to study the effect of these weather conditions of drivers' lane and speed choices.

Adaptive Traffic Signal Control Design for Isolated Signals B.Tech. Technical Project
Supervisor: Prof. Gopal R. Patil, August 2018-May 2019

- Designed a **Longest Queue First** approach to dynamically control traffic signals. The signal tries to empty the approach with longest queue to minimize travel delays.
- Tested the algorithm on a synthetic network using a MATLAB and VISSIM-COM interface.

Traffic Flow Characteristics, Lane Usage, Lane Change Behavior and Platooning on Expressways In India
Supervisor: Prof. Gopal R. Patil, July 2017-May 2019

- Studied macroscopic and microscopic traffic flow parameters to analyze lane usage and lane-by-lane lane change behavior on Indian Expressways using video-graphic data. Developed lane changing models for a basic section of expressway.

– Studied driving behavior of Indian Drivers on Expressways to analyze platooning on Expressways and developed a simple methodology based on minimization of Coefficient of Variation to determine the critical headway for platooning. Developed platooning models for basic section of an expressway.

HONORS AND AWARDS

– **Charles E. DeLeuw Award** for Outstanding Civil Engineering Student, UIUC 2020.
– **Ravindar K. and Kavita Kinra Fellowship**, UIUC 2019-2020.
– **Institute Silver Medal** for academics, IIT Bombay, 2019.
– **Honors in Transportation Engneering**, IIT Bombay, 2019.
– **MITACS Globalink** to fund interneship at University of Regina, Summer 2018.
– **Undergraduate Research Award**, IIT Bombay, 2018.
– **Institute Academic Prize**, IIT Bombay, 2016-17 and 2017-18.
– **O.P. Jindal Engineering and Management Scholarship** awarded to 80 students across India, 2017

SERVICE

– Reviewer for Transport Findings.