

ZHAO, ZHAN

RESEARCH INTERESTS	Urban Computing and Spatiotemporal Data Mining; Human Mobility and Travel Behavior; Public Transit and Shared Mobility on Demand Systems
EDUCATION	<p>Massachusetts Institute of Technology, Cambridge, MA, USA Ph.D. Transportation, July 2018 Department of Civil and Environmental Engineering Thesis: <i>“Uncovering Individual Mobility Patterns from Transit Smart Card Data: Trip Prediction, Activity Inference, and Change Detection”</i></p> <p>University of British Columbia, Vancouver, BC, Canada M.S. Civil Engineering, August 2013 Department of Civil Engineering Thesis: <i>“Understanding Car Pride”</i></p> <p>Tongji University, Shanghai, China B.E. Transportation Engineering, July 2011 College of Transportation Engineering</p>
PROFESSIONAL EXPERIENCE	<p>Via Transportation, Inc., New York, NY, USA Data Scientist 2018-Present</p> <ul style="list-style-type: none">• Analyzed the unit economics of the ridesharing marketplace, including estimating the sharing ratio and operational cost per ride• Compared different models for short-term demand prediction, including time series models and deep learning methods• Developed methods to identify fraudulent behaviors of drivers based on mixed effects models and Bayesian inference• Investigated the effects of vehicle routing (e.g., detours) on user retention <p>Singapore-MIT Alliance for Research and Technology, Singapore, Singapore Visiting Researcher Summer 2017</p> <p>IBM Research, Dublin, Ireland Research Intern Summer 2016</p> <p>Transport for London, London, UK Research Intern Summer 2015</p> <p>Translink, Vancouver, BC, Canada Research Intern Summer 2012</p>
TEACHING AND ADVISING EXPERIENCE	<p>Massachusetts Institute of Technology, Cambridge, MA, USA Teaching Assistant</p> <ul style="list-style-type: none">• <i>11.478 Behavior and Policy</i>, Spring 2015 <p>Student Advisor</p> <ul style="list-style-type: none">• Margo Dawes, undergraduate Capstone project, Spring 2015 <p>University of British Columbia, Vancouver, BC, Canada Teaching Assistant</p>

- *CIVL 441 Transportation Planning and Analysis*, Spring 2013
- *CIVL 587 Urban Transportation Economics and Policy*, Fall 2012

SUBMITTED PAPERS

- **Zhao, Z.**, Koutsopoulos, H. N., and Zhao, J. (2019). Discovering latent activity patterns using transit smart card data. Submitted to *Transportation Research Part C: Emerging Technologies*.

JOURNAL PUBLICATIONS

- **Zhao, Z.**, Koutsopoulos, H. N., and Zhao, J. (2018). Detecting pattern changes in individual travel behavior: A Bayesian approach. *Transportation Research Part B: Methodological*, 112, 73-88.
- **Zhao, Z.**, Koutsopoulos, H. N., and Zhao, J. (2018). Individual mobility prediction using transit smart card data. *Transportation Research Part C: Emerging Technologies*, 89, 19-34.
- Goulet-Langlois, G., Koutsopoulos, H. N., **Zhao, Z.**, and Zhao, J. (2018). Measuring regularity of individual travel patterns. *IEEE Transactions on Intelligent Transportation Systems*, 19(5), 1583-1592.
- **Zhao, Z.**, and Zhao, J. (2018). Car pride and its behavioral implication: An exploration in Shanghai. *Transportation*, 1-10.
- Zhao, J., Frumin, M., Wilson, N. H., and **Zhao, Z.** (2013). Unified estimator for excess journey time under heterogeneous passenger incidence behavior using smartcard data. *Transportation Research Part C: Emerging Technologies*, 34, 70-88.
- Frumin, M., Zhao, J., Wilson, N. H., and **Zhao, Z.** (2013). Automatic data for applied railway management: Case study on the London Overground. *Transportation Research Record: Journal of the Transportation Research Board*, 2353, 47-56.
- **Zhao, Z.**, Zhao, J., and Shen, Q. (2013). Has transportation demand of Shanghai, China, passed its peak growth? *Transportation Research Record: Journal of the Transportation Research Board*, 2394, 85-92.

CONFERENCE PAPERS

- **Zhao, Z.**, Koutsopoulos, H. N., and Zhao, J. (2018). Discovering latent activity patterns from human mobility. *The 7th ACM SIGKDD International Workshop on Urban Computing (UrbComp'18)*, London, UK.
- **Zhao, Z.**, Koutsopoulos, H. N., and Zhao, J. (2018). Detecting changes in individual travel behavior patterns. *Transportation Research Board 97th Annual Meeting*, Washington, DC.
- **Zhao, Z.**, Koutsopoulos, H. N., and Zhao, J. (2017). Mobility as a language: Predicting individual mobility in public transportation using n-gram models. *Transportation Research Board 96th Annual Meeting*, Washington, DC.
- **Zhao, Z.**, Zhao, J., and Koutsopoulos, H. N. (2016). Individual-level trip detection using sparse call detail record data based on supervised statistical learning. *Transportation Research Board 95th Annual Meeting*, Washington, DC.
- **Zhao, Z.**, and Zhao, J. (2015). Car pride: Psychological structure and behavioral implications. *Transportation Research Board 94th Annual Meeting*, Washington, DC.
- **Zhao, Z.**, Chua G., and Zhao, J. (2012). Evolution of trip chaining patterns in London from 1991 to 2010. *Innovations in Travel Modelling Conference*, Tampa, FL.

BOOK CHAPTERS	<ul style="list-style-type: none"> • Zhao, Z., Koutsopoulos, H. N., and Zhao, J. (2019). Uncovering Spatiotemporal Structures from Transit Smart Card Data for Individual Mobility Modeling. Book chapter for <i>Demand for Emerging Transportation Systems</i> (in press).
HONORS AND AWARDS	<ul style="list-style-type: none"> • Fellow, Meeting of Minds@HKU Forum for Outstanding Young Scholars, 2019 • Mitacs-Accelerate Internship Award, 2012 • Tongji University Outstanding Graduate Award, 2011 • Second Prize of Competition of Transport Science and Technology of Tongji University, 2010 • Scholarships for Excellent Academic Performance, 2008-2010
SERVICE	Ad-hoc reviewer for <i>Transportation Research Part C: Emerging Technologies</i> , <i>Transportation Research Part A: Policy and Practice</i> , <i>IEEE Transactions on Intelligent Transportation Systems</i> , and <i>Transportation Research Board Annual Meetings</i> .