Xiaofeng Li, Ph.D.

Assistant Professor

School of Travel Industry Management (TIM)
The Shidler College of Business
University of Hawai'i at Mānoa, Honolulu, HI
Phone: (808)-956-7111; Email: xiaofeng.li@hawaii.edu
https://orcid.org/0000-0001-5526-9961

EDUCATION

The University of Arizona, Tucson, AZ, USA
Doctor of Philosophy (Civil Engineering),   Aug 2017 – Aug 2021
- Major in Transportation Engineering
  - Dissertation: *High-Resolution Data-Based Methods for Arterial Traffic Volume Estimation*
- Minor in Management Information Systems

Beijing Jiaotong University, Beijing, China
Master of Science,   Aug 2014 – Jun 2017
- Major in Traffic and Transportation Planning and Management

Fujian Agriculture and Forestry University, Fuzhou, Fujian, China
Bachelor of Science,   Aug 2010 – Jun 2014
- Major in Traffic Engineering

RESEARCH INTERESTS

Tourist-related Travel Behavior Analysis; Big Data and AI; Intelligent Transportation System (ITS); Traffic Signal Control; Traffic Monitoring; Shared Micro-Mobility; Robot-assisted Delivery; Smart Cities

AWARDS AND HONORS

- **Outstanding Graduate Student Award**, CAEM, College of Engineering, The University of Arizona, May 2021
- **Best Graduate Research Paper Award**, ITS Arizona 28th Annual Conference, Nov 2020

WORK EXPERIENCE

Founder/Director   Jan. 2023 – Present
Island Travel and Transportation (ITT) Lab

Assistant Professor   Aug 2023 – Present
School of Travel Industry Management (TIM)
The Shidler College of Business
University of Hawai'i at Mānoa

Research Assistant Professor Sep 2021 – Jul 2023
Center for Applied Transportation Sciences (CATS)
Department of Civil & Architectural Engineering & Mechanics
The University of Arizona

Graduate Research Assistant Aug 2017 – Aug 2021
Smart Transportation Lab
Department of Civil & Architectural Engineering & Mechanics
The University of Arizona

Traffic Engineering Intern Jul 2015 – Feb 2016
Transportation Research Center
Beijing Urban Construction Design & Development Group Co., Limited

PEER-REVIEWED JOURNAL PUBLICATIONS (*corresponding author)

1. Adrian Cottam, **Xiaofeng Li***, Xiaobo Ma, and Yao-Jan Wu (2024). *Large-scale Freeway Traffic Volume Estimation using Crowdsourced Speed Data: A Case Study in Arizona*. Accepted by Journal of Transportation Engineering, Part A: Systems

2. Adrian Cottam, **Xiaofeng Li***, Mohammad Razaur Rahman Shaon, and Yao-Jan Wu (2023). *Investigating the Impacts of E-Scooters on a Bike-sharing System in Tucson, Arizona with a No Ride Zone*. International Journal on Sustainable Transportation. 1-14.

3. Xi Zhang, **Xiaofeng Li***, and Yao-Jan Wu (2023). *Safety Performance Evaluation of Flashing Yellow Arrow: Time-of-Day vs 24-hour Operations*. Transportation Research Record: Journal of the Transportation Research Board, 03611981231152461.

4. **Xiaofeng Li***, Adrian Cottam, and Yao-Jan Wu (2023) *Transit Arrival Time Prediction using Interaction Networks*. IEEE Transactions on Intelligent Transportation Systems, 24(4), 3833-3844.

5. Liang Xia, **Xiaofeng Li**, Mohammad Razaur Rahman Shaon, Yao-Jan Wu, and Xinguo Jiang* (2023). *Arterial Signal Offset Optimization Using Crowdsourced Speed Data*. Transportation Research Record: Journal of the Transportation Research Board, vol. 2677, no. 2, pp. 1633-1642.

6. Weibin Zhang, Chen Yan, **Xiaofeng Li,** Liangliang Fang, Yao-Jan Wu, and Jun Li (2022). *Distributed Signal Control of Arterial Corridors Using Multi-Agent Deep Reinforcement Learning*. IEEE Transactions on Intelligent Transportation Systems.

7. Peipei Xu, **Xiaofeng Li***, Hyunsoo Noh, and Yao-Jan Wu (2022). *Network-Level Turning Movement Counts Estimation using Traffic Controller Event-Based Data*. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 1-15.

8. Xiaoling Luo, **Xiaofeng Li**, Mohammad Razaur Rahman Shaon, and Yongxiang Zhang (2022). *Multi-Lane-Merging Strategy for Connected Automated Vehicles at Freeway Ramps*. Transportmetrica B: Transport Dynamics 1-19.

9. Hainan Huang, Rongjie Zhang, Chengguang Xie, and **Xiaofeng Li*** (2021). *Identifying Subway Passenger Flow under Large-Scale Events Using Symbolic Aggregate Approximation Algorithm*. Transportation Research Record: Journal of the Transportation Research Board, Volume 2676, Issue 2, pp.800-810.

10. Chengguang Xie, **Xiaofeng Li**, Bingfa Chen, Feng Lin, Yushun Lin, and Hainan Huang* (2021). *Subway Sudden Passenger Flow Prediction Method Based on Two-Factors: Case Study of the Dongsishitiao Station in Beijing*. Journal of Advanced Transportation, vol.2021, pp.5577179.

11. Mohammad Razaur Rahman Shaon, **Xiaofeng Li***, Yao-Jan Wu, and Simon Ramos (2021). *Quantitative Evaluation of Advanced Traffic Management Systems using Multi-Criteria Decision Analysis*. Transportation Research Record: Journal of the Transportation Research Board, Volume 2675, Issue 12, pp.610-621.

12. **Xiaofeng Li**, Peipei Xu, and Yao-Jan Wu*, (2021). *Estimating Pedestrian Crossing Volume at Signalized Intersections using Bayesian Additive Regression Trees*. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations. Volume 26, Issue 5, pp.557-571.

13. **Xiaofeng Li***, Yao-Jan Wu, and Alireza Khani (2021). *Investigating a Small-Sized Bike-Sharing System's Impact on Transit Usage: A Synthetic Control Analysis in Tucson, Arizona.* Public Transport, Volume 14, Issue 2, pp.441-458.

14. **Xiaofeng Li** and Yao-Jan Wu* (2021). *Real-time estimation of pedestrian volume at button-activated midblock crosswalks using traffic controller event-based data*. Transportation Research Part C: Emerging Technologies. Volume 122: 102876.

15. **Xiaofeng Li**, Adrian Cottam, Yao-Jan Wu*, and Alireza Khani (2020). *Can a bikesharing system reduce fuel consumption? Case study in Tucson, Arizona*. Transportation Research Part D: Transport and Environment. Volume 89: 102604.

16. **Xiaofeng Li**, Yao-Jan Wu*, and Yi-Chang Chiu (2019). *Volume Estimation using Traffic Signal Event-Based Data from Video-Based Sensors*. Transportation Research Record: Journal of the Transportation Research Board. Volume 2673, Issue 6, p.22-32.

17. **Xiaofeng Li**, Alexander Weber, Adrian Cottam, and Yao-Jan Wu* (2019). *Impacts of changing from permissive/protected left-turn to protected-only phasing: case study in the City of Tucson, Arizona*. Transportation Research Record: Journal of the Transportation Research Board. Volume 2673, Issue 4, p.616-626.

Manuscripts Under Review

18. Adrian Cottam, **Xiaofeng Li**, and Yao-Jan Wu. VEMLAN: Imputing Missing Data for Failed Freeway Traffic Sensors. Submitting to Journal of Intelligent Transportation Systems.

19. Zhang Xi, **Xiaofeng Li**, and Yao-Jan Wu. *Decision-Making Framework for Feasibility in Deploying Emerging Adaptive Traffic Control Systems*. Submitting to Transportation Research Record.

PEER-REVIEWED CONFERENCE PAPERS

1. **Xiaofeng Li**, Peipei Xu, Yao-Jan Wu, Hyunsoo Noh, and Ryan James Hatch. *Quality Assurance for Network-level Traffic Signal Performance Measurement Derived from Connected-Vehicle Data*. Will present at the 103rd Annual Meeting of the Transportation Research Board

2. **Xiaofeng Li**, Peipei Xu, Yao-Jan Wu, Hyunsoo Noh, and Ryan James Hatch. *Leveraging Existing Traffic Detections for Network-level Control Delay and Arrival-on-Green Estimation at Signalized Intersections*. Will present at the 103rd Annual Meeting of the Transportation Research Board

3. Zhang Xi, **Xiaofeng Li**, and Yao-Jan Wu. *Decision-Making Framework for Feasibility in Deploying Emerging Adaptive Traffic Control Systems*. Will present at the 103rd Annual Meeting of the Transportation Research Board

4. Adrian Cottam, **Xiaofeng Li**, Cynthia Eduwiges Navarro, and Yao-Jan Wu. *Investigating Interactions between Sidewalk Autonomous Delivery Robots and Vehicular Traffic at Stop-Controlled Crosswalks*. Will present at the 103rd Annual Meeting of the Transportation Research Board

5. Adrian Cottam, **Xiaofeng Li**, and Yao-Jan Wu. *Machine-Learning Approach for Estimating Passenger Car Equivalency Factors using Crowdsourced Data*. Will present at the 103rd Annual Meeting of the Transportation Research Board

6. Zirui Huang, **Xiaofeng Li**, Yi-Chang Chiu, and Yao-Jan Wu (2023). *Evaluating Traffic Incident Management System Performance in Post-Incident Response: Method to Homogenize Incident Duration and Spatial Autocorrelation Analysis*. Presented at the 102nd Annual Meeting of the Transportation Research Board. Under review.

7. Xi Zhang, **Xiaofeng Li**, and Yao-Jan Wu (2023). *Safety Performance Evaluation of Flashing Yellow Arrow: Time-of-Day vs 24-hour Operations*. Presented at the 102nd Annual Meeting of the Transportation Research Board.

8. Adrian Cottam, **Xiaofeng Li**, and Yao-Jan Wu (2023). *VEMLAN: Imputing Missing Data for Failed Freeway Traffic Sensors*. Presented at the 102nd Annual Meeting of the Transportation Research Board

9. **Xiaofeng Li,** Adrian Cottam, and Yao-Jan Wu, (2022). *Transit Arrival Time Prediction by Fusing GTFS and Crowdsourced Data*. Presented at the 101st Annual Meeting of the Transportation Research Board.

10. **Xiaofeng Li** and Yao-Jan Wu, (2021). *Estimating Real-Time Pedestrian Volume at Button-Activated Midblock Crosswalks*. Presented at the 100th Annual Meeting of the Transportation Research Board.

11. **Xiaofeng Li**, Peipei Xu, and Yao-Jan Wu, (2021). *Estimating Pedestrian Crossing Volume at Signalized Intersections*. Presented at the 100th Annual Meeting of the Transportation Research Board.

12. Liang Xia, **Xiaofeng Li**, Mohammad Razaur Rahman Shaon, Yao-Jan Wu, and Xinguo Jiang (2021). *Arterial Signal Offset Optimization Using Crowdsourced Speed Data*. Presented at the 100th Annual Meeting of the Transportation Research Board.

13. Mohammad Razaur Rahman Shaon, **Xiaofeng Li**, Yao-Jan Wu, and Simon Ramos (2021). *Quantitative Evaluation of Advanced Traffic Management Systems using Multi-Criteria Decision Analysis*. Presented at the 100th Annual Meeting of the Transportation Research Board.

14. Peipei Xu, **Xiaofeng Li**, Hyunsoo Noh, and Yao-Jan Wu, (2021). *Estimating Network-Level Turning Movement Counts using Traffic Controller Event-Based Data*. Presented at the 100th Annual Meeting of the Transportation Research Board.

15. Adrian Cottam, **Xiaofeng Li**, Mohammad Razaur Rahman Shaon, and Yao-Jan Wu (2021). *Investigating the Impacts of E-Scooters on Bike-sharing System Ridership: A Data-Driven Study in Tucson, Arizona*. Presented at the 100th Annual Meeting of the Transportation Research Board.

16. Adrian Cottam, Xiaobo Ma, **Xiaofeng Li**, and Yao-Jan Wu (2021). *Large-scale Freeway Traffic Volume Estimation using Crowdsourced Speed Data: A Case Study in Arizona*. Presented at the 100th Annual Meeting of the Transportation Research Board.

17. Yang Liang, Xiaoqing Zeng, **Xiaofeng Li**, Adrian Cottam, and Yao-Jan Wu (2020). *Quantifying Mobility Impact of Pedestrian Hybrid Beacon Signal on Arterial Traffic: Case Study in Tucson, Arizona*. Presented at the 99th Annual Meeting of the Transportation Research Board.

18. **Xiaofeng Li**, Yao-Jan Wu, and Yi-Chang Chiu (2019). *Volume Estimation using Traffic Signal Event-Based Data from Video-Based Sensors*. Presented at the 98th Annual Meeting of the Transportation Research Board.

19. **Xiaofeng Li**, Alexander Weber, Adrian Cottam, and Yao-Jan Wu (2019*). Impacts of changing from permissive/protected left-turn to protected-only phasing: case study in the City of Tucson, Arizona*. Presented at the 98th Annual Meeting of the Transportation Research Board.

20. Melrose Pan, **Xiaofeng Li**, Robert Kluger, and Yao-Jan Wu (2019*). Red-Light Violation Identification Using GPS Trajectories*. Presented at the 98th Annual Meeting of the Transportation Research Board.

TECHNICAL/PROJECT REPORTS

1. Yao-Jan Wu, **Xiaofeng Li**, and Peipei Xu (2023). *Region-Wide Traffic Performance Evaluation and Performance Measure Development Using Multi-Source Data*. Pima Association of Governments (PAG).

2. Yao-Jan Wu, **Xiaofeng Li**, and Zhang Xi (2023). *Feasibility Assessment for Adaptive Signal Control (ASC) System*. Town of Gilbert

3. Abolhassan Mohammadi Fathabad, **Xiaofeng Li**, Jianqiang Cheng, and Yao-Jan Wu (2022). *Data-Driven Optimization for E-Scooter System Design*. (No. NITC-RR-1382) National Institute for Transportation and Communities (NITC), USDOT National University Transportation Center.

4. Yao-Jan Wu, **Xiaofeng Li**, and Peipei Xu (2021). *Comparative Analysis and Integration of Region-Wide Traffic Data*. Pima Association of Governments (PAG).

5. Yao-Jan Wu, Mohammad Razaur Rahman Shaon, and **Xiaofeng Li** (2020). *Multi-Criteria Evaluation of Advanced Traffic Management Systems (ATMS)*. The City of Phoenix.

6. Yao-Jan Wu, Zong Tian, **Xiaofeng Li**, and Adrian Cottam (2018). *Feasibility Evaluation of Lead-Lag Left-Turn Phasing – Case Study of Speedway Blvd, Tucson, AZ*. City of Tucson

PROPOSAL WRITING

Winning Proposals

1. Leverage Existing Data Sources to Obtain Performance Measures for Multi-modal Transportation Systems, Pima Association of Governments, Aug 2023-Dec 2024 ($200,000)

   - Primary writer

2. Optimizing Traffic Signals Using Multi-Source Data: Phases 3 – 6, The City of Tucson, Arizona. Aug 2019 – Aug 2023. ($500,000)

   - Primary writer

3. Leveraging Existing Traffic Signal Assets to Obtain Quality Traffic Counts and Enhance Transportation Monitoring Programs. National Cooperative Highway Research Program (NCHRP), Apr 2022-Aug 2024 ($450,000)

4. Data-Driven Optimization for E-Scooter System Design. National Institute for Transportation & Communities (USDOT National University Transportation Center), Aug 2020-Jan 2022 ($67,619)

   - Primary writer

5. Feasibility Assessment for Adaptive Signal Control (ASC) System: Phases 1 − 2. Town of Gilbert, Arizona, Mar 2020-Mar 2023 ($120,755)

   - Primary writer

6. Region-Wide Traffic Performance Evaluation and Performance Measure Development Using Multi-Source Data. Pima Association of Governments, Dec 2021-Apr 2023 ($100,315)

   - Primary writer

7. Comparative Analysis and Integration of Region-Wide Traffic Data. Pima Association of Governments (PAG). ($133,424)

   - Primary writer

8. Artificial Intelligence for Transportation Systems Management and Operations Applications (NCHRP 07-34) ($450,000).

   - Primary writer

Other Proposals (Was not awarded)

9. Beyond Congestion for Livability, Equity, Adaptability, and Resilience (BeCLEAR), Submitted to USDOT for UTC application.

10. Eco-strategies for Improving City Sustainability with Emerging Mobility Systems, Submitted to the Department of Energy (DOE)

    - Primary writer

11. Expanding Research and Education Programs of Center for Applied Transportation Sciences using Mobile Robots, Submitted to the University of Arizona Provost Investment Fund.

    - Primary writer

RESEARCH PROJECTS

1. Artificial Intelligence for Transportation Systems Management and Operations Applications (NCHRP 07-34) National Cooperative Highway Research Program (NCHRP). May 2023 – Aug 2023. (**Co-PI[1,2]**)

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[1] Relinquish the reward due to moving to UHM.
[2] PI: Dr. Yao-Jan Wu, The University of Arizona

2. Leveraging Existing Traffic Signal Assets to Obtain Quality Traffic Counts and Enhance Transportation Monitoring Programs. (NCHRP 03-144) National Cooperative Highway Research Program (NCHRP). Apr 2022 – May 2023. (**Key Personnel**)

3. Region-Wide Traffic Performance Evaluation and Performance Measure Development Using Multi-Source Data. Pima Association of Governments (PAG). Jan 2022 – Aug 2023. (**Co-PI[3]**)

4. Feasibility Assessment for Adaptive Signal Control (ASC) System. Town of Gilbert, Arizona. Apr. 2020 – Aug 2023 (**Co-PI[4]**)

5. Optimizing Traffic Signals using Multi-Source Data Phase 1-6, The City of Tucson, Arizona. Aug 2017 – Aug 2023 (**Co-PI[5]** for Phase 5 and 6)

6. Comparative Analysis and Integration of Region-Wide Traffic Data. Pima Association of Governments (PAG). Jan 2020 – Dec 2021.

7. Data-Driven Optimization for E-Scooter System Design. National Institute for Transportation & Communities (USDOT National University Transportation Center). Aug 2020 – Jan 2022.

8. Multi-Criteria Evaluation of Advanced Traffic Management Systems (ATMS). City of Phoenix, Arizona. Jan 2019 - Mar 2020.

9. Traffic Study for Indirect Left Turns on Grant Road, Tucson (Phase 2): Stone/Park Construction. Subcontract from Psomas Inc. Sep 2019 - Jun 2020

INVITED TALKS & PRESENTATIONS

1. **Xiaofeng Li** and Yao-Jan Wu**.** Building Safe, Efficient, and Sustainable Communities through Applied Transportation Research: CATS at U of Arizona. 2022 Arizona Conference on Roads & Streets. Sep 29, 2022.

2. **Xiaofeng Li.** Collecting More Arterial Traffic Volume Data Without Installing New Traffic Sensors. National Travel Monitoring Exposition and Conference (NaTMEC). Jun 16, 2022.

3. **Xiaofeng Li** and Hyunsoo Noh. Innovative Approaches for Region-Wide Traffic Data Collection and Use in the PAG Region. Maricopa Association of Governments (MAG) Intelligent Transportation Systems (ITS) Committee Meeting. Online. Feb 2, 2022.

4. **Xiaofeng Li**, Hyunsoo Noh, and Yao-Jan Wu. Comparative Analysis and Integration of Region-Wide Traffic Data. PAG/RTA Transportation Systems and Safety Subcommittee (TSSS) Meeting. Online. Aug 12, 2021.

5. **Xiaofeng Li** and Yao-Jan Wu. Advanced Applications of Crowdsourced Traffic Data. ITS Arizona Annual Conference, Mesa, AZ. Sep. 20, 2019

6. **Xiaofeng Li** and Yao-Jan Wu. Optimizing Traffic Signals Using Multi-Source Data. National Rural Intelligent Transportation Systems Annual Conference, Phoenix, AZ, Oct. 21-24, 2018.

7. **Xiaofeng Li**. Volume Estimation Using Traffic Signal Event-Based Data from Video-Based Sensors. COTA-ISETT Conference, Honolulu, Hawaii. Oct 2018.

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[3] PI: Dr. Yao-Jan Wu, The University of Arizona
[4] PI: Dr. Yao-Jan Wu, The University of Arizona
[5] PI: Dr. Yao-Jan Wu, The University of Arizona

TEACHING EXPERIENCES

Instructor
- TIM 302 Information Systems Technology (8 students enrolled)
  University of Hawai'i at Mānoa, Spring 2024
- TIM606 Managerial Economics in Hospitality, Tourism, and Transportation (13 students enrolled)
  University of Hawai'i at Mānoa, Fall 2023

Co-Instructor
- CE462/562 Traffic Engineering and Operations (12 students enrolled)
  The University of Arizona, Spring 2023

Technical Session Instructor
- CE462/562 Traffic Engineering and Operations
  The University of Arizona, Spring 2021

STUDENT MENTORSHIP

- **Doctoral Students**
  - Adrian Cottam, University of Arizona, 2021-2023 (as a dissertation committee member)
  - Raymond Huang, University of Arizona, 2021-2023 (as a dissertation committee member)
  - Xi Zhang, University of Arizona, 2021- Spring 2023
- **Master Students**
  - Rhema Wong, University of Hawai'i at Mānoa, Fall, 2023 – Spring, 2024
  - David Klebosky, University of Arizona, Fall 2018 – Spring 2019
  - Yang Liang, Tongji University, 2018 – 2019
- **Undergraduate Students**
  - Isidro Garcia Amezquita, University of Arizona, Summer 2022 – Spring 2023
  - Cynthia Eduwiges, University of Arizona, Summer 2022 – Spring 2023
  - Muhammad Luqman Mohd-Rizal, University of Arizona, Fall 2021
  - Ashley Arleen Avila, University of Arizona, Fall 2019
  - Sal Licari, University of Arizona, Spring 2018

PROFESSIONAL ACTIVITIES

University Services – The University of Arizona
- Center for Applied Transportation Sciences (**CATS**)
  - Executive Leadership Team Member   Sep 2020 – May 2023

- Smart Transportation Lab (**STL**)
  - Lab Manager   May 2020 – May 2023

- Institute of Transportation Engineers UA Student Chapter (**UAITE**)
  - President   May 2019 - May 2020

o Conference coordinator	May 2018 - May 2019

Professional Membership
- Transportation Research Board (**TRB**)
  - Committee on Artificial Intelligence and Advanced Computing Applications (AED50):
    - Committee Friend   Jan 2019-Present
  - Artificial Intelligence Research Subcommittee AED50(1):
    - Committee Member   Jan 2023-Present
  - Committee on Urban Transportation Data and Information Systems (AED20)
    - Committee Friend   Oct 2021-Present
  - Committee on Information Systems and Technology (AED30):
    - Committee Friend   Jan 2020- Present
  - Committee on Traffic Signal Systems (ACP25):
    - Committee Friend   Apr 2020- Present
- American Society of Civil Engineers (**ASCE**)
  - Member   Nov 2022-Dec 2023

Professional Services
- ITE Hawaii Section
  - Technical Chair   Dec, 2023-Present
- Ad-hoc Panel, ASCE Conference Young Transportation Member Workshop, June 2023
- Ad-hoc Committee, TRB AED50 Student Dissertation Competition, Jan 2023

Journal Paper Review
- Transportation Research Record
- Journal of Transport Geography
- Case Studies on Transport Policy
- Journal of Advanced Transportation
- Physical A: Statistical Mechanics and its Applications
- Transportation Letters
- Public Transport
- Scientific Reports
- Accident Analysis and Prevention
- Journal of Cleaner Production

Conference Paper Review
- Transportation Research Board (**TRB**) Annual Meeting
- Hawaii International Conference on System Sciences (**HICSS**)

MEDIA COVERAGE

1. [Transportation Engineer Tackles Tucson's Traffic Flow](). UofA News, Nov 2019.