

Fengze Yang

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EDUCATION

University of Utah

Salt Lake City, UT, USA

Ph.D. in Civil and Environmental Engineering (Transportation)

08/2024 – present

- Advisor: Professor Chenxi Liu

University of Washington

Seattle, WA, USA

Master of Science in Civil and Environmental Engineering (Transportation)

01/2021 – 12/2022

- Advisor: Professor Yinhai Wang
- Dissertation: Pedestrian Crowds Density Detection and Estimation Based on Surveillance Camera Video

Beijing Jiaotong University

Beijing, China

Bachelor of Engineering in Civil Engineering (Transportation)

09/2016 – 06/2020

- Advisor: Professor Chunfu Shao
- Dissertation: Traffic Design and Evaluation of the Fengtai Transportation Hub in Beijing: A Case Study within the Context of Transit-Oriented Development

INDUSTRY EXPERIENCE

INRIX Inc., Kirkland, WA

Back-end Development Intern and Full-time Engineer

Jun. 2022 – Mar. 2024

- Led backend development for scalable AI-powered transportation platforms using AWS, Java, and big data technologies.
- Collaborated across global teams to deliver high-performance APIs and analytics tools, improving system performance by over 90%.

INDUSTRY PROJECTS

Traffic Signal Optimization Platform

INRIX Inc., 2023

- Built a real-time system to evaluate signal performance using GPS and phase data.
- Enabled data-driven timing updates through automated analytics and agency dashboards.

Trip Paths Visualization Tool

INRIX Inc., 2022

- Developed backend processes to visualize large-scale travel patterns from GPS data.
- Supported planners with interactive mapping tools and scalable data pipelines.

Machine Learning-Based Bottleneck Detection

INRIX Inc., 2022 – 2023

- Created ML models to detect congestion hotspots using probe vehicle and incident data.
- Delivered data products that guided infrastructure investment and incident response.

HONORS & AWARDS

- A1. 2025 ITE Utah Section Student Scholarship, 2025.

REFEREED PUBLICATIONS

Refereed Journal Publications

1. C. Liu, **F. Yang**, R. Ke, S. Yin, and Y. Wang*. "Scale-Aware Representation Learning Empowered Sensing (SARLES) System for Pedestrian Crowds Perception in Complex Transportation Scenarios", accepted by Transportation Research Part C on Sep. 2024, in press
2. **F. Yang**, X. Liu, L. Lu, B. Wang, and C. Liu*. "Independent Mobility GPT (IDM-GPT): A Self-Supervised Multi-Agent Large Language Model Framework for Customized Traffic Mobility Analysis Using Machine Learning Models", accepted by Journal of the Transportation Research Board on Feb. 2025, in press

Refereed Conference Proceedings

1. X. Luo, F. Ding, **F. Yang**, Y. Zhou, J. Loo, H. H. Tew, and C. Liu*. "SenseRAG: Constructing Environmental Knowledge Bases with Proactive Querying for LLM-Based Autonomous Driving.", In Proceedings of the Winter Conference on Applications of Computer Vision (pp. 989-996)

PROFESSIONAL SERVICES

Academic Society Membership

- Student Member. Institute of Transportation Engineers (ITE), since 2024.
- Student Member. American Society of Civil Engineers (ASCE), since 2024.
- Student Member. Chinese Overseas Transportation Association (COTA), since 2021.

RESEARCH EXPERIENCE

Research Assistant

University of Utah

Advisor: Assistant Professor Chenxi Liu

Salt Lake City, UT, USA

08/2024 – present

SKILLS

- **Programming Languages:** Python, Java, HTML, CSS, JavaScript
- **Dev tools / Frameworks / Products:** PyTorch, AWS, Maven, HTML5, CSS3, jQuery, Node, React
- **Simulation Tools:** VISSIM, Synchro, TransCAD
- **Design Softwares:** AutoCAD, Photoshop
- **Languages:** English, Mandarin