Dingyi Zhuang

Website: zhuangdingyi.github.io/
Google Scholar

LinkedIn
Email : dingyi@mit.edu
Mobile : +1-617-803-4153

EDUCATION

- **Massachusetts Institute of Technology** — Cambridge, MA
  Ph.D. Candidate in Transportation Engineering — *Sep. 2021 - Now*
  - Research Interests: Time Series Modeling, Uncertainty Quantification, Graph Neural Networks, LLM
  - Advisor: Prof. Jinhua Zhao. GPA: 5.0/5.0.

- **McGill University** — Montreal, Canada
  Master in Transportation Engineering — *Sep. 2019. - May. 2021*
  - Advisor: Prof. Lijun Sun. GPA: 3.8/4.0.

- **Shanghai Jiao Tong University** — Shanghai, China
  Bachelor of Science in Mechanical Engineering (Tsien Hsue-Shen Class, Top 5%) — *Sep. 2015 - Jul. 2019*

WORK EXPERIENCE

- **Bosch Center for Artificial Intelligence** — Sunnyvale, CA
  Research Intern — *May. 2025 - Aug. 2025*
  - Developed plug-and-play modules to enhance topology reasoning in online map generation for autonomous driving, achieving improved performance on the OpenLaneV2 dataset with minimal computational and training overhead.
  - Designed and implemented graph structure refinement algorithms leveraging contrastive learning techniques to improve representation quality and structural accuracy.

- **Morgan Stanley** — New York City, NY
  Machine Learning Research Intern — *Jun. 2024 - Aug. 2024*
  - Analyzed and created dashboards to study semi-bipartite graphs in transaction, email, and other financial networks.
  - Designed imbalance-aware heterogeneous graph neural networks on financial transaction data for fraud account detection. Algorithms were implemented into production, helping teams with similar graph structures.
  - Deployed LLM to explore and benchmark the optimization problems.

- **Chicago Transit Authority** — Chicago, IL
  Research Intern — *May. 2021 - Sep. 2021*
  - Studied passengers' transaction and trajectory data to understand their spatiotemporal exploratory behavior patterns during different phases of the pandemic. Mixture distributions were used to describe pattern specifics.
  - Analyzed and wrapped up a dashboard to visualize network redundancy and passenger demand change under incidents using disruption logs and smart card data, which helped the agency plan policies for service disruptions.

SELECTED PUBLICATIONS (30+ PAPERS, CITATION 600+)

1. **Dingyi Zhuang**, Chonghe Jiang, Yunhan Zheng, Shenhao Wang, Jinhua Zhao, GETS: Ensemble Temperature Scaling for Calibration in Graph Neural Networks, *ICLR 2025, Spotlight*. link
2. Xinyu Chen, **Dingyi Zhuang**, HanQin Cai, Shenhao Wang, Jinhua Zhao, Dynamic Autoregressive Tensor Factorization for Pattern Discovery of Spatiotemporal Systems, IEEE Transactions on Pattern Analysis and Machine Intelligence. link
3. **Dingyi Zhuang**, Hanyong Xu, Xiaotong Guo, Yunhan Zheng, Shenhao Wang, Jinhua Zhao, Mitigating Spatial Disparity in Urban Prediction Using Residual-Aware Spatiotemporal Graph Neural Networks: A Chicago Case Study, *WWW 2025, Best Paper Award* at *WebST* Workshop. link
4. **Dingyi Zhuang**, Yuheng Bu, Guang Wang, Shenhao Wang, Jinhua Zhao, SAUC: Sparsity-Aware Uncertainty Calibration for Spatiotemporal Prediction with Graph Neural Networks, TGL Worhship at *NeurIPS 2023*. link
5. **Dingyi Zhuang**, Shenhao Wang, Haris Koutsopoulos, Jinhua Zhao, Uncertainty Quantification of Sparse Trip Demand Prediction with Spatial-Temporal Graph Neural Networks, *The 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD 2022)*. link
6. Yihong Tang, Zhaokai Wang, Ao Qu, Yihao Yan, Zhaofeng Wu, **Dingyi Zhuang**, Jushi Kai, Kebing Hou, Xiaotong Guo, Jinhua Zhao, Zhan Zhao, Wei Ma, ITINERA: Integrating Spatial Optimization with Large Language Models for Open-domain Urban Itinerary Planning, *EMNLP 2024; Best Paper Award* at *KDD* Urban Computing Workshop link

SKILLS

- Broad ML engineer skillset: solid math + Python, deep-learning mastery, scalable data pipelines, ML system design, and responsible-AI evaluation.