Johnny Yutian Zhang

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Short Bio.

Yutian Zhang is a graduate student pursuing a master's degree in the School of Intelligent Systems Engineering at Sun Yat-sen University, under the supervision of Prof. Haipeng Zeng. His research primarily focuses on visual analytics, urban visualization, and traffic big data.

Education

Sun Yat-sen University, M.S in Transportation Engineering — Sept 2022 – Present

- GPA: 3.96/5.0 | Rank: 1/18
- **Research Interests:** Visual Analytics, Urban Visualization, Traffic Big Data

Sun Yat-sen University, B.S. in Traffic Engineering — Sept 2018 – June 2022

- GPA: 3.98/5.0 (Equivalent to 3.9/4.0) | Rank: 5/69
- **Coursework:** Traffic Engineering, Traffic Management, Data Analysis, Traffic Big Data, and Software Engineering

Publications

CSLens: Towards Better Deploying Charging Stations via Visual Analytics —— A Coupled Networks Perspective — Sept 2024

Yutian Zhang, Liwen Xu, Shaocong Tao, Quanxue Guan, Quan Li, Haipeng Zeng

IEEE Transactions on Visualization and Computer Graphics (IEEE VIS 2024)

MARLens: Understanding Multi-agent Reinforcement Learning for Traffic Signal Control via Visual Analytics — April 2024

Yutian Zhang, Guohong Zheng, Zhiyuan Liu, Quan Li, Haipeng Zeng

IEEE Transactions on Visualization and Computer Graphics

EVCSeer: An Exploratory Study on Electric Vehicle Charging Stations Utilization via Visual Analytics — April 2024

Yutian Zhang, Shuxian Gu, Quan Li, Haipeng Zeng

IEEE Computer Graphics and Applications

Projects

Charging Station Location Problem based on Visual Analytics — Jan 2022 - Present

- Applied data mining and visualization techniques to analyze influencing factors, such as traffic hotspots, points of interest, and charging price
- Developed visual analytics systems to support the decision-making process for charging station deployment
- One prototype system won 3rd prize in the 17th National Competition of Transport Science and Technology for Students (July 2022)

Utilizing Visualization to Understand Traffic Signal Control Models — Jan 2023 - April 2024

- Designed novel visualization to understand traffic signal control schemes better
- Developed visual analytics systems to explore and evaluate traffic signal control models
- One prototype system won 2nd prize in the 18th National Competition of Transport Science and Technology for Students (July 2023)

ChinaVis 2023 Visual Analytics Challenge — May 2023 - June 2023

- Designed and developed a visual analytics system to explore the spatial-temporal patterns of a road network
- Tools Used: Python, QGIS, D3.js, Vue.js

Cellular Data Analysis Oct 2022 - Dec 2022

- Preprocessed raw cellular data and analyzed city-level mobility
- Tools Used: Python

Honors and Awards

2024: First-class Scholarship for Master's Students, Sun Yat-sen University

2022: First-class Scholarship for Master's Students, Sun Yat-sen University

2022: 3rd Price, National Competition of Transport Science and Technology for Students

2018 - 2021 Excellence Scholarship, Sun Yat-sen University

2019 - 2021 Traffic Education Scholarship, School of Intelligent Systems Engineering, Sun Yat-sen University

Invited Talk

CSLens: Towards Better Deploying Charging Stations via Visual Analytics —— A Coupled Networks Perspective Oct 2024

the 2024 IEEE Visualization and Visual Analytics Conference (VIS 2024)

Tampa, Florida, US

MARLens: Understanding Multi-agent Reinforcement Learning for Traffic Signal Control via Visual Analytics Oct 2024

the 2024 IEEE Visualization and Visual Analytics Conference (VIS 2024)

Tampa, Florida, US

CSLens: Towards Better Deploying Charging Stations via Visual Analytics —— A Coupled Networks Perspective July 2024

the 11th China Visualizationand Visual Analytics Conference (ChinaVis 2024)

Hong Kong, China

Teaching Assistant Experience

Visualization and Visual Analytics Feb 2024 - July 2024

- Prepared code examples for D3.js and web development, designed assignments and projects

Software Engineering Feb 2023 - July 2023

- Refined course materials and designed quizzes

Skills

Coding: Python, JavaScript, SQL

Data Analysis: Pandas, QGIS, Transbigdata

Data Visualization: D3.js, Matplotlib, Echarts

Web Development: Vue.js, Bootstrap, Flask/Django, Figma

Other: Photography, Piano