

Xiaoyue Zhu

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EDUCATION

Southeast University

Master of Science in Transportation Planning and Management; GPA: 88.7/100

Aug. 2020 – Present

Nanjing, China

- **Thesis:** A Cooperative Traffic Control Strategy in Highway Work Zones
- **Advisors:** Pan Liu and Zhibin Li

University of Waterloo

Program: Engineering, Non Degree, Exchange; GPA: 95.33/100

Fall 2019

Waterloo, Canada

University of California, Berkeley

Program: Summer Session; GPA: 3.65/4

Summer 2018

Berkeley, CA

Southeast University

Bachelor of Engineering in Traffic Engineering (Maoyisheng Class); GPA: 3.9/4

Aug. 2016 – June. 2020

Nanjing, China

- **Thesis:** Real-time highway traffic states estimation and traffic event discrimination
- **Advisor:** Pan Liu

RESEARCH AND PROJECT EXPERIENCE

Southeast University

Research Assistant

Aug. 2020 – Present

Nanjing, China

My primary research interests lie in traffic flow theory and highway traffic control, with applications in practical intelligent highway control and management. My past works include:

- **Research – Vehicle Merging Characteristics in Highway Work Zones:** recording aerial videos in 10 highway work zones with different traffic flow rates and layouts; extracting vehicle trajectory data using the OpenVTER framework and proposing a trajectory dataset; comparing merging behaviors in terms of merging location, gap, merging speed and lane changing impact.
- **Research – Modeling Lane Changing Behavior in a Expressway Weaving Section:** recording aerial videos in a short weaving section in Nanjing; detecting vehicles based on YOLOv4; modeling the consecutive lane changing behavior in the weaving section.
- **Project – Design and Research of Active Highway Traffic Control System:** (management deployed on the Rongwu and Jingde highways in Hebei province) developing integrated mainline traffic management strategies and algorithms for typical highway scenarios; designing a dynamic traffic control system architecture; writing white papers, technical specifications and project reports.
- **Project – Traffic Operation in Runyang Bridge Connection Area:** analyzing traffic flow operation characteristics and identifying congestion nodes; investigating congestion formation and diffusion mechanism of bottleneck sections using simulation; optimizing traffic flow on bottleneck sections.

Currently, I am working on the topics in my graduation thesis. T1: the characteristics of lane changing behaviors at highway work zones; T2: the impacts of lane lines on the capacity of highway work zones and the optimization of the length of lane lines; T3: a cooperative dynamic control strategy (lane change control plus variable speed limits) near highway work zones.

Southeast University

Research Assistant

Nov. 2017 – Apr. 2018

Nanjing, China

- **Analysis of Traffic Congestion and Conflict Characteristics of Typical Bottleneck Sections of Expressways:** extracting macroscopic traffic flow parameters and microscopic vehicle status to determine congestion status using trajectory data; analyzing the safety risks of vehicle lane changes on expressways.

PAPERS AND PRESENTATIONS

Conference Papers

1. “*Empirical Studies on Merging Characteristics in Temporary Highway Work Zones with Different Traffic States and Layouts*”, with Zheng Li, Xinkai Ji, Zhibin Li and Pan Liu, submitted to TRB 102nd Annual Meeting.
2. “*Survival Analysis of the Likelihood and Duration of Traffic Flow Breakdown at Freeway Merge Bottlenecks*”, with Zhibin Li, submitted to ASCE ICTD 2022.

Presentations

1. “*Survival Analysis of the Likelihood and Duration of Traffic Flow Breakdown at Freeway Merge Bottlenecks*”. Poster presentation at ASCE ICTD, June 2022.

TEACHING AND SERVICE EXPERIENCE

Southeast University

Spring 2022

Teaching Assistant for Traffic Safety

Nanjing, China

- **Instructors:** Pan Liu and Yanyong Guo

Modified assignments, graded all assignments and final exam, drafted solutions and held office hours.

Southeast University

Spring 2021

Teaching Assistant for Traffic Safety

Nanjing, China

- **Instructor:** Pan Liu

Graded course assignments and final exam, drafted assignment solutions and held office hours.

Nanjing Institute of City & Transport Planning Co.,Ltd.

Summer 2019

Intern

Nanjing, China

- Participated in a parking planning project in Nanjing Jiangbei New Area and other urban transportation planning projects.

The 2nd Jiangsu Development Summit

May, 2019

Volunteer

Nanjing, China

- Responsible for one-on-one guest reception.

HONORS AND AWARDS

Second Class Scholarship for Graduate Students of Southeastern University

2020, 2021

National Third Prize in the National English Competition for College Students

2020

Third Prize of Humanities and Social Science Knowledge Contest

for Science and Technology Students in Jiangsu Province

2018

Merit Student in Southeast University

2017

Third Prize of Southeast University Advanced Mathematics Competition

2017

Southeast University Education Foundation Scholarship

2017

Outstanding Individual, School of Transportation, Southeast University

2017

SKILLS AND ACTIVITIES

Programming Skills : Python, MATLAB

Software : Word, Excel, PowerPoint, SPSS, L^AT_EX

Languages : English (fluent), Mandarin (native)

Interests : Basketball, Tennis, Swimming

REFERENCES

Prof. Pan Liu : pan_liu@hotmail.com

Prof. Zhibin Li : lizhibin@seu.edu.cn

Prof. Yanyong Guo : guoyanyong@seu.edu.cn