

Yongcan Huang

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INDUSTRY EXPERIENCE

Stantec Consulting Services Inc. – Lake Mary, Florida <i>Traffic Engineer</i> Supported safety and traffic engineering projects in New Jersey and Florida, including network screening and diagnosis, traffic operations analysis, and travel demand modeling. <ul style="list-style-type: none">Cleaned, analyzed, and mapped crash data to roadway profiles; performed high-injury network (HIN) analyses to identify crash hotspots using Excel and EasyHIN.Conducted geospatial analysis of HIN data and generated layouts using ArcGIS Pro.Applied engineering judgment to recommend targeted safety countermeasures and developed multi-tiered strategies for Comprehensive Safety Action Plans (CSAP) based on the Safe System Approach.Authored road safety audit reports and delivered data-driven insights and actionable recommendations to municipal and regional stakeholders.Performed corridor operational analyses under various alternatives using Synchro and Highway Capacity Manual (HCM).Updated network and input files for travel demand models (TDM) in Cube Voyager to evaluate traffic impacts under multiple improvement scenarios.	<i>Jan 2025 – May 2025</i>
Arcadis – Atlanta, Georgia <i>Traffic Engineer Intern</i> <ul style="list-style-type: none">Conducted safety and operational analysis for intersections and corridors.Provided Regional/Corridor level performance measures for various alternatives.Visualized and analyzed performance results under different alternatives and no-built conditions with ArcGIS Pro, Excel, Python.Created a web application using Streamlit and Python for transforming Synchro traffic files, improving engineering efficiency.	<i>May 2024 – Aug 2024</i>

RESEARCH AND PROFESSIONAL EXPERIENCE

University of Georgia -Athens, Georgia (Smart Mobility & Infrastructure Laboratory) <i>Graduate Research Assistant</i> (Advisor: Dr. Jidong James Yang) <ul style="list-style-type: none">Worked alongside advisor to lead the charge on the development of a new research lab in Intelligent Traffic Systems and Mobility. This included identifying a location, resources, equipment, and infrastructure requiredLed in conducting research in three Georgia Department of Transportation funded projects and assisted in preparing the progress reports and final submittals.Published multiple papers on highly ranked journals while also supporting junior graduate students in learning academic writingPresented at multiple conferences in front of leading researchers from across the world at ASCE International Conference on Transportation & Development (ICTD) and Transportation Research Board Annual MeetingMentored junior lab members as they pursued their M.S., provided them with advice concerning work-life balance, expectations, research guidance, and fundamentally taught them how to become researchersServed as a paper reviewer for multiple journals and conferences based on areas of AI in Transportation, Traffic Safety and Data AnalyticsSupported PI with GDOT and TRB proposal preparation by contributing to research ideas and drafting supporting contentsLed a writing week at the end of the semester where graduate students focused on writing papersOrganized and hosted seminars for Center for Regional and Rural Connected Communities (CR2C2) <i>Graduate Teaching Assistant (Part Time)</i> <ul style="list-style-type: none">Updated the curriculum and syllabus, and delivered lectures for ENGR 8140: Advanced Deep Learning and Engineering Application, a 3-credit course focused on cutting-edge AI applications in transportation, engaging an average of over 50 students per classDesigned and graded assignments, exams, and course projects, providing detailed feedback to studentsHeld regular office hours and supervised lab sessions, offering guidance and support to students	<i>Jan 2021 – Dec 2024</i>
Clemson University-Clemson, South Carolina <i>Graduate Research Assistant</i> (Advisor: Dr. Tuyen Le)	<i>Jan 2020 – Dec 2021</i>

- Led in conducting researches in an NSF-funded projects and assisted in preparing the progress reports and final submittals.
- Published multiple papers on highly ranked journals
- Presented at multiple conferences in front of leading researchers from across the world at International Symposium on Automation and Robotics in Construction (ISARC)

Shibaura Institute of Technology-Tokyo, Japan

May 2018 – Sep 2018

Research Intern (Advisor: Dr. Nakagawa Mafasumi)

- Obtained the point cloud data set (Laser scanning data & SfM data) of Hachimanbashi bridge
- Preprocessed the raw point cloud data like registration, data alignment, data cutting, down sample and data merge
- Extracted geometric features from point cloud and generated geometrics models to depict the present state of the bridge
- Generated as-built building models and conducted quality assurance reviews to verify the accuracy
- Summarized a framework of creating iron bowstring arch-truss bridges as-built BIMs

GRAND EXPERIENCE

Georgia Department of Transportation (GDOT)-Funded Projects:

- Cluster-Based Context-Sensitive Quality Control Process for Improved Data Quality, Jidong Yang (PI), Yongcan Huang (Co-PI), \$146,000 (Pending)
- Feasibility Assessment of Alternative Power Options for Roundabout Lighting in Georgia, Jidong Yang (PI), \$100,000 (Funded)

EDUCATION

University of Georgia, Athens, Georgia

Ph.D. in Engineering, Resilient Infrastructure Systems Emphasis

Graduated: Dec 2024

Dissertation: “AI-Empowered Frameworks for Fault Detection in Traffic Sensor Networks”

Changsha University of Science and Technology, Changsha, China

M.S. in Traffic and Transportation Engineering

Sep 2017 - Dec 2019

Thesis: “Research on Feature Extraction of Road Facility Based on LiDAR Data”

Wuhan Institute of Technology, Wuhan, China

B.S. in Road Bridge and River Crossing Engineering

Sep 2013 - Jul 2017

PUBLICATION

Journal Publications:

Published:

1. Huang, Y., Zhen, H., Yang, J.J., 2024. Cluster-guided Denoising Graph Auto-Encoder-based Traffic Data Imputation and Fault Detection. **Expert Systems with Applications**.
2. Huang, Y., Yang, J.J., 2024. Symmetric Contrastive Learning for Robust Fault Detection in Time-Series Traffic Sensor Data. **International Journal of Data Science and Analytics**.
3. Huang, Y., Yang, J.J., 2022. Semi-Supervised Multiscale Dual-Encoding Method for Faulty Traffic Data Detection. **Applied Computing and Intelligence**.
4. Zhen, H., Shi, Y., Huang, Y., Yang, J.J., Liu, N., 2024. Leveraging Large Language Models with Chain of Thought and Prompt Engineering for Traffic Crash Severity Analysis and Inference, **MPDI Computers**.
5. Huang, Y., Trinh, M.T., Le, T., 2021. Critical Factors Affecting Intention of Use of Augmented Hearing Protection Technology in Construction. **Journal of Construction and Management**.
6. Liu, H., Yang, G., Li, D., Huang, Y., 2019. JI YU WBS HE EBS DE GONGLU GONGCHENG BIM GONGXU JIAOYAN YANJIU [BIM Process Inspection of Highway Engineering Based on WBS And EBS, **Project Management Technology** (In Chinese).

Submitted:

1. Huang, Y., Zhen, H., Yang, J.J., 2024. Injury Severity Analysis of Fixed object Hitting Crashes Using Latent Class Clustering with Unobserved Heterogeneity. **Accident Analysis & Prevention**.
2. Huang, Y., Yu, G., Yang, J.J., 2024. Analysis of Traffic Accident Severity Under Extreme Weather Conditions Using Machine Learning Methods. **International Journal of Data Science and Analytics**.

In Preparation:

1. Huang, Y., Yang, J.J., 2024. Highway Scene Understanding Enhancement for Autonomous Vehicles with Data Fusion from Onboard and Highway Sensor Networks. **Accident Analysis & Prevention**.

Conference Proceedings:

1. Huang, Y., Le, T., 2020. Factors Affecting the Implementation of Ai-Based Hearing Protection Technology at Construction Workplace, **International Symposium on Automation and Robotics in Construction** (Tokyo, Japan). IAARC Publications

TEACHING EXPERIENCE

• ENGR 8140: Advanced Deep Learning and Engineering Application	University of Georgia
• 201809: Transportation Engineering	Changsha University of Science and Technology

RESEARCH SERVICE

Committee Service	
• Voting Member of ASCE AI in Transportation Committee	Mar 2024 - Present
• Corresponding Member of ASCE Data Sensing Analytics Committee	Mar 2024 - Present
• Young Member of Institute of Transportation Engineers (ITE) Georgia Section	Feb 2022 - Present
Peer-Review Service	
• Program Committee Member of Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2025	
• Reviewer of International Journal of Data Science and Analytics	
• Reviewer of TRB Annual Meeting 2025	
• Reviewer of American Public Health Association Annual Meeting 2024	
Mentoring Experience	
• Invited Judge for Drexel University’s College of Computing Senior Project Competition	Jun 2024
• Engineering Boy Scout Coach for The Troop of Greenville, South Carolina Division	Jan 2023

AWARDS & SCHOLARSHIP

UGA Engineering School Travel Grand (\$1000)	Jan 2024
2023 American Public Health Association ICEHS Presidents’ Road Safety Scholarship (\$500)	Jun 2023
2023 Lifesavers Traffic Safety Scholar (\$1000)	Apr 2023
Construction Engineering & Management Ph.D. Fellowship, Clemson University (\$5000 /year)	Jan 2020
Research Exchange Program (to Shibaura Institute of Technology in Japan) Scholarship (120,000 JPY)	Jun 2018
Best Study Abroad Scholar, Changsha University of Science and Technology (35,000 CNY)	Oct 2019
Best Master’s Thesis Award, Changsha University of Science and Technology	Dec 2019

PRESENTATION

Poster Presenter at 2025 TRB Annual Meeting	Jan 2025
Poster Presenter at 2024 ASCE ICTD Conference	Jun 2024
Podium Presenter at 2023 ASCE ICTD Conference	Jun 2023
Poster Presenter at 2024 GDOT/GTI EXPO	Sep 2024
Poster Presenter at 2023 GDOT/GTI EXPO	Sep 2023
Poster Presenter at 2022 GDOT/GTI EXPO	Sep 2022
Podium Presenter at 2020 International Symposium on Automation and Robotics in Construction	Nov 2020

SKILLS

- **Languages:** Python, R, MATLAB, SQL.
- **Frameworks:** Pytorch, Tensorflow, Streamlit.
- **AEC Tools:** Arcgis, Qgis, MicroStation, HCS, VISSIM, Cube Voyager, Synchro, PowerBI, Google Earth, AutoCAD, Midas Civil, Cloudcompare, Meshlab, Excel analysis tools.
- **Developer Tools:** Linux, Git, MySQL, AWS, Visual Studio Code, Jupyter Notebook.