

Qihong Lin

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Education

University of Michigan

Ann Arbor, MI

Master of Science in Engineering, Industrial & Operation Engineering

Aug 2023 – Dec 2024

Master of Science in Engineering, Construction Engineering & Management

Aug 2022 – Apr 2024

Coursework: Modern Construction Management; Project Planning Scheduling & Control;

GPA: 4.0

Computer-Aided Project Management; Engineering Process Modeling and Risk Analysis.

Tongji University

Shanghai, China

Bachelor of Engineering, Artificial Intelligence(AI) in Civil Engineering

Sep 2018 – Jul 2022

Relevant Coursework: Advanced Mathematics; Linear Algebra; Probability and Mathematical

GPA: 3.82

Statistics; Operation Research; Engineering Economics; Risk Management and Insurance;

GRE: 326 (3.5)

Python Programming; Data Mining; Engineering System Analysis and Optimization, etc.

Project Experience

Life Cycle Analysis as a Tool to Estimate Forced Labor in a Supply Chain

Jan 2023 – Apr 2023

LAW 741 Term paper, supervised by Prof. Seth D. Guikema and Prof. Bridgette Carr

- Using the input-output life cycle assessment methodology, introduced the labor intensity coefficient and the forced labor prevalence coefficient, and transformed the economic input-output model into an IO model that quantifies the number of hours of forced labor, which is capable of estimating the amount of forced labor potentially invested in hundreds of remaining industries over the life cycle of a dollar's worth of products in a given industry.
- Responsible for modeling and solution design for the project. Chaired weekly meetings of the project team to facilitate the completion of tasks in an organized manner.

Woodstock Sawmill Construction Project

Oct 2022 – Nov 2022

CEE 536 Term project, supervised by Prof. Photios G. Ioannou

- Conducted a comprehensive project report discussing the project's status in terms of time and cost, earned value analysis, as well as the causes of delay and cost overruns. It serves as an update on the current progress through the Gantt charts, timelines, network diagrams, and C/SCSC metrics produced by modeling over 50 tasks in Microsoft Project.
- Corrective actions were suggested to shorten the project while analyzing the cost impacts and risk assessment of these suggestions based on the current situation, critical activities, and future events. Suggestions include contract structures, short-term expenditure that aims to compress the timeframe, optimize labor hiring strategies, etc.

Analysis of Monitoring Data and Assessment of Performance of a Super-tall Building

Feb 2022 – Jun 2022

- A Data-driven Structural Response Prediction Model

Graduation Thesis, supervised by Assoc. Prof. Suzhen Li

- Conducted data pre-processing and analysis of the massive multi-source monitoring data collected by the structural health monitoring system of Shanghai Center Building, using Python and Matlab.
- Established a CNN-LSTM-based wind features time-series prediction model and a BP neural network-based wind pressure prediction model. Proposed a wind load prediction method combining two models with an error of around 7%.
- Established a wind-induced response prediction model based on CNN with an error under 10%, which can be used to accurately predict the core barrel acceleration responses in case of sensor failure or data loss.

Risk Management in Engineering and Construction for Chinese Enterprises

Dec 2021 – Feb 2022

Course Project of Risk Management and Insurance

- Conducted a research of the risk management in the construction field, which elucidated the risk management process for international engineering projects and serves as a guide for Chinese businesses in international engineering contracts.
- The study has included specific examples for more in-depth discussion, such as project level assignment and respective duty boundaries. The necessary procedures and future improvement in risk management of multinational projects were suggested based on a typical failure of an African road project contracted by Chinese companies.

Artificial Image Dataset Generation Method for Construction Machinery

Jan 2021 – May 2021

Research Assistant, supervised by Prof. Yujie Lu

- Proposed a method to generate and automatically annotate artificial images of construction machinery based on UE4 and UnrealCV, and generated an excavator dataset of 10,000 images called SCED(synthesized construction equipment dataset).
- Undertook preparatory work including data collection, sorting, and labeling. Conducted construction machinery 3D point cloud reconstruction with openMVG. Improved the quality of the dataset with generative adversarial networks (GAN).
- Coauthored a patent - a method and electronic device for generating image data sets of construction machinery.

Internship Experience

Research Institute of Zhesang Securities Co. Ltd.

Nov 2022 – Feb 2023

Transportation & Duty Free Industry Research Internship, Remote

- Conducted industry and listed company information and data collection, processing, and analysis. Maintained the database and built the traffic index predicting model for several international airports.
- Conducted industry and company research summaries and in-depth reports on future tourism and transportation hubs' performance prediction and investment suggestions.

Qiyun Think Tank of International College of Football Tongji University

Jan 2021 – Jul 2022

Editor & Translator, Part-time

- Assembled, translated, and analyzed News collections on overseas football matches.
- Wrote special reports on specific events and technology development in the football world.
- The monthly magazine published by Qiyun was adopted as an internal reference by the Chinese Football Association.

General Engineering Research Institute of Shanghai Construction Group Co. Ltd.

Jun 2021 – Aug 2021

Summer Research Intern, supervised by Dr. Zibo Zuo.

- Learned knowledge on 3D printing construction with concrete and conducted a literature review.
- Designed and implemented a series of concrete collapse tests to measure the fluidity and cohesion of concrete.
- Researched the visualization techniques of the inner structure of opaque fluid such as concrete.

China Merchants Bank

Jul 2020 – Aug 2020

Trainee of the 'Future banker' elite incubation training camp

- Systematically learned knowledge and methodology on market research and investment analysis.
- Conducted research on the team's final project and made recommendations on the future development and asset allocation strategy of high-tech companies by understanding the sustainable development case of Huawei's supply chain.

Additional

- **Skills:** Microsoft Office, Matlab, SQL, Python, Revit, AutoCAD, SketchUp, Rhino, Primavera P6, Project
- **Languages:** English (fluent, TOEFL 106), Chinese (native)