Qian Shi

Contact Info

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Education

University of Florida, Gainesville, FL
Ph.D. in Construction Management — May 2025(expected)

- Committee: Ian Flood, Hassan Azad, Chaofeng Wang, Kejun Huang
- Coursework: CAP 6615 - Neural Networks, PHC 6068 - R Computing, COT 5405 - Analysis Of Algorithms

University of Florida, Gainesville, FL
M.A. in Construction Management — August 2020

Southeast University, Nanjing, China
B.A. in Civil engineer — June 2017

Research Experience

Rinker Lab, University of Florida, Gainesville, FL, USA

Numerical simulation research assistant — August 2020 - present

Assisted Professor Ian Flood with the Fast transient pressure acoustic simulation NN:

- Developed the transient pressure acoustic model using COMSOL Multiphysics
- Designed neural network models to capture sound propagation dynamics with high-resolution simulation data, ensuring alignment with real-world accuracy.
- Built multiple coarse-grained models by reducing data resolution (spatial and temporal) and model complexity (feature resolution), achieving significant performance improvements with minimal impact on precision.

Assisted Professor Ian Flood with the Bending moment NN in Weigh-in-motion:

- Collecting bending moment data of trucks under regulations of FHWA by Influence line equation.
- An LSTM-based RNN trained on simulated bending moment data outperformed SVMs and other machine learning tools in weigh-in-motion classification in accuracy and anti-noise ability

Assisted Professor Zhiguang Huo with the Bending moment generation:

- Developed an R package that generates bending moment time series data for different truck specifications based on FHWA standards as they traverse a bridge.

Working Experience

Hengda Construction Company, Inner Mongolia, China

Site Technician — August 2016

- Assisted in on-site data collection, including surveying and verifying measurements to ensure accuracy of construction plans.
- Assist in preparing and maintaining construction project schedules using tools like Primavera.

Computer Skills

- Programming: Python, R, Java
- Machine learning libraries: Scikit-learn, Pytorch, Keras
- Applications: LaTeX, Comsol, Revit

Certificate

- Neural Networks and Deep Learning