Qian Shi

Contact Info

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linkedin

Education

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

- Coursework: CAP 6615 - Neural Networks, PHC 6068 - R Computing, COT 5405 - Analysis Of Algorithms, BCN6785 - Construction Information System

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 Auto-regressive Acoustic Predictive Model :

- Developed a TWiST-Norm-enhanced DDPM model for 2D acoustic pressure prediction, where temporal weighting improves spatiotemporal coherence through adaptive normalization.
- Proposed a coarse-grained integration strategy that achieves a 15.6× speed-up while maintaining a low sound pressure level error of 3.5 dB in reconstructing acoustic pressure field sequences, effectively balancing accuracy and computational efficiency.
- Demonstrated strong approximation performance in extended scenarios, revealing a trade-off between accuracy and efficiency in highly reflective environments.

♢Assisted Professor Ian Flood with the Bending Moment NN in Weigh-in-Motion:

- 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.
- Assisted 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: ArcGIS, Comsol, Revit

Certificate

- Neural Networks and Deep Learning
- Introduction to Financial Accounting