Jiayuan Chen

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Education

Georgia Institute of Technology, Atlanta, GA   *May 2023 (Expected)*
- MS in Computational Science & Engineering

Tongji University, Shanghai, China   *Jun 2021*
- BE in Civil Engineering. GPA 4.21/5.0. Ranking 9/36. Received 4 academic scholarships.

Israel Institute of Technology, Haifa, Israel   *Jun 2019 – Aug 2019*
- Machine Learning course program. Grade 4.0/4.0.

Experience

Hezhu Digital Technology Co., Ltd, Shanghai, China   *Jan 2021 – Jul 2021*
Software Engineering Intern
- Mostly worked as a frontend developer and worked with the backend team for a month.
- Our team built the whole website (https://aiarch.cn) from scratch.
- Designed and implemented more than 50 React components including several important generics.
- Participated in server maintenance, debugging and project deployment.
- Gained first-hand experience in Django, JavaScript, React & Redux development, styling techniques, MySQL database design & operation, RESTful API, coding principles, server maintenance, and so forth.

Selected Projects

Structural Damage Detection Based on Digital Twin and Machine Learning   *Mar 2021 – Jun 2021*
- Established a composite approach – both constitutive and data-driven, to detect structural damages of an existing structure under stochastic earthquake input.
- Wholly implemented the digital twin system, simulated 306 sets of structural response and built 2 shallow CNNs for damage classification and regression. Wrote more than 1000 lines of Matlab & Simulink scripts.
- Reached high accuracy in all cases and completed a 53-page paper. Revision for publishing in progress.

Anomalous Pattern Detection of a Real Bridge (The 1st IPC-SHM Competition)   *Jul 2020 – Aug 2020*
- Designed and implemented an advanced feature extraction algorithm that can reduce the data size and make datasets much more separable.
- Trained with LSTM and Resnet-101 network and achieved a weighted true positive rate of 97% for all 7 anomalous patterns. Analyzed our result to provide explanations for structural and equipment malfunctions.
- Documented our work in a 12-page paper and made a final presentation.

Hotel Management System Development   *May 2020 – Jun 2020*
- Developed with SQL. Server, ADO. Net and C#. Used .NET framework for UI development.
- Made detailed analysis over the Entity–Relationship model and Normal Forms. Implemented the whole relational database and created 10 fundamental CRUD APIs.
- Used Git extensively to collaborate with the other two partners.

Leadership

Student Union of Tongji University   *Sep 2016 – Mar 2019*
Department of Media and Information, President
- Led a department with more than 15 members.
- Administrated one of Tongji University's official Wechat accounts - Tongji Student Union (Wechat Id: *tjsu1919,* website: https://zijue.tongji.edu.cn).
- Published daily articles with average views over 2000.
- Participated in the operation of other large scale university events.

Skills

Programming Languages: Java, Python, JavaScript, Matlab, C++/C, C#.

Engineering Software: Matlab, AutoCAD, ANSYS, 3Ds Max, Sketch Up, Rhino, Photoshop, Premiere Pro, Adobe Xd.

Tools: Docker, React, Django, Redux, styled-components, Three.js, Git, PyTorch, Keras, LaTeX.