Franklin (Qingan) Zhao

📍 117 Veterans Pl, Ithaca, New York 14850
📱 (510) 277 2721
✉ qz297@cornell.edu
🏠 http://franklinzhao.top
⚙ http://github.com/QinganZhao
in https://goo.gl/5yajUp

Education

2018 – 2019 Aug May	**Master of Professional Studies** Cornell University *Computing and Information Sciences* GPA: 3.8/4.0	
2017 – 2018 Aug May	**Master of Science** University of California, Berkeley *Systems Engineering* GPA: 3.6/4.0	
2013 – 2017 Sept June	**Bachelor of Engineering** Dalian University of Technology *Civil Engineering* GPA: 3.9/4.0	

Work Experience

Data Science Intern   May 2018 – Aug 2018
Deloitte Consulting - AIM Group

- Participated in the design of the customer engagement platform workflow for the client based on DevOps using Kafka, MySQL, Spark, and Tableau; The project developed the first advanced business intelligence system within that industry in Greater China Area
- Developed a demo of Single Customer View (SCV) modeling and analysis for the client using Python and Java on Microsoft Azure; a demo of Key Performance Indicator (KPI) analysis platform using Python, Spark-SQL, and Tableau on Microsoft Azure
- Conducted industrial desk research and business development strategy; Participated in the Master Data Management (MDM) implementation for the client

Graduate Student Researcher   Jan 2018 – May 2018
UC Berkeley College of Engineering

- Conducted research on data science and machine learning for energy (battery) observer and optimization systems development, and auto-driving

Research Assistant   Sept 2014 – Aug 2017
State key Laboratory of Coastal and Offshore Engineering

- Conducted research on large-scale regional structural health monitoring, data mining, and rapid evaluation based on smartphone cloud monitoring

Computer Skills

Programming Languages
Python, R, SQL, Java, C/C++, BASH, HTML/CSS

Software & Tools
Git/GitHub, MySQL, Spark, Tableau, Kafka, AWS, MATLAB, Caffe, Tensorflow, Scikit-Learn, Pandas, SFrame, Seaborn, Wherescape, LaTeX, MS Office, Auto CAD, Adobe Photoshop, Adobe Dreamweaver

Projects

**User Query Behavior Monitor for Morgan Stanley
Finance Data Warehouse**   Sept 2018 – Present

- Converted the business problem to an unsupervised machine learning problem for the client
- Processed and analyzed data using different unsupervised learning models and evaluated trade-offs on accuracy, cluster formation and time taken for execution; The best model worked great according to the client's feedback
- Created dashboards and reports to visualize the results

Human Driving Behavior Recognition and Prediction
(Website: https://goo.gl/LJZk2X)   Jan 2018 – May 2018

- Applied Gaussian Mixture Models to capture different human driving behavior given their high-level decisions and built classifiers to find those high-level intentions
- Implemented a variational autoencoder to learn the representation of different driver behavior models in latent space and make prediction accordingly

Marriage Analysis
(Website: https://goo.gl/D6HY6k)   Jan 2018 – May 2018

- Analyzed and predicted the marriage status in Japan using several supervised learning models including logistic regression, SVM, and neural networks based on the census data

GA
(Website: https://goo.gl/H5BJcu)   Aug 2017 – Dec 2017

- Wrote an R package for variable selection in regression problems based on genetic algorithm

Deep Learning Based Structural Damage Detection
(Website: https://goo.gl/27C7Sm)   Jan 2017 – Aug 2017

- Designed and implemented a damage detection technique for masonry structures based on convolutional neural networks and a sliding window algorithm using Caffe and Python
- Applied Faster-RCNN and achieved an accuracy of 98% (Best accuracy in structural damage detection as of 2017)

**Distributed Displacement Measurement Technique for
SHM Using Smartphones**
(Website: https://goo.gl/C4kgfV)   Aug 2015 – Mar 2017

- Devised a strategy for distributed multipoint displacement monitoring based on computer vision techniques
- Designed an iPhone app *D-Viewer* for monitoring the micro displacement of structures

**Public Participation Emergency Communication and
Rapid Loss Evaluation System for Earthquake Zone**
(Website: http://www.e-explorer.cn)   Jan 2015 – July 2015

- Devised a strategy using data mining techniques to build a loss evaluation system based on the seismic intensity scale of China via questionnaires

Publications

- Wang, N., **Zhao, Q.,** Li, S., Zhao, X., & Zhao, P. (2018). Damage Classification for Masonry Historic Structures Using Convolutional Neural Networks Based on Still Images. *Computer–Aided Civil and Infrastructure Engineering.* (doi: 10.1111/mice.12411)
- Zhao, X., **Zhao, Q.,** Yu, Y., Chen, Y., Liu, H., Li, M., & Ou, J. (2017). Distributed Displacement Response Investigation Technique for Bridge Structures Using Smartphones. *Journal of Performance of Constructed Facilities, 31*(4). (doi: 10.1061/(ASCE)CF.1943-5509.0001025)