

Franklin (Qingan) Zhao

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in <https://goo.gl/5yajUp>

EDUCATION

2018 – 2019 **Master of Professional Studies**
AUG MAY CORNELL UNIVERSITY
Computing and Information Sciences

2017 – 2018 **Master of Science**
AUG MAY UNIVERSITY OF CALIFORNIA, BERKELEY
Systems Engineering
GPA: 3.6/4.0

2013 – 2017 **Bachelor of Engineering**
SEPT JUNE 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 intelligent 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, SparkSQL, 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, MATLAB, Caffe, Tensorflow, Scikit-Learn, Pandas, Seaborn, L^AT_EX, MS Office, Auto CAD, Adobe Photoshop

Operating Systems

Mac OS X, Windows 10, Linux

PROJECTS

User Query Behavior Monitor for a Global Investment Bank 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)