Franklin (Qingan) Zhao

1528 Oxford Street, Berkeley, California 94709
(510) 277 2721
qingan_zhao@berkeley.edu
http://franklinzhao.top
http://github.com/QinganZhao

Education

2017 – 2018 **Master of Science**
Aug May University of California, Berkeley
Systems Engineering
GPA: 4.00/4.00

2013 – 2017 **Bachelor of Engineering**
Sept June Dalian University of Technology
Civil Engineering
GPA: 3.88/4.00

Coursework

Graduate
Introduction to Statistical Computing
Foundation of Data Science
Nonlinear and Discrete Optimization
Applications in Data Analysis (Spring 2018)
Machine Learning (Graduate Level) (Spring 2018)

Undergraduate
Advanced Mathematics (Calculus) I/II
Linear Algebra
Probability and Statistics
Fundamentals of Computers
C Language Programming
Machine Learning
Data Structures
ConvNets for Visual Recognition

Honors & Awards

14-16 **Annual Academic Scholarship**
Dalian University of Technology

15, 16 **Annual Innovation scholarship**
Dalian University of Technology

2016 **First Prize (top 2%)**
National Civil Engineering Outstanding Innovation Achievement Award for Undergraduates

2015 **Third Prize (top 5%)**
National "Challenge Cup" Competition of Science and Technology Works for Undergraduates

Computer Skills

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

Software & Tools
Git/GitHub, MATLAB, Caffe, Tensorflow, Spark, SPSS, MS Excel, MS PowerPoint, MS Word, AutoCAD, 3D Studio Max, Photoshop

Operating systems
Mac OS X, Windows 7/10, Linux

Research Experience

Research Assistant Sept 2014 – Aug 2017
Research Center of Structural Smartphone Cloud Monitoring, State key Laboratory of Coastal and Offshore Engineering
- Accomplished 3 research projects as a leader/collaborator funded by Natural Science Foundation of China (510479031, 51278085, 51221961); topics are within Civil Engineering, Data Science and Computer Science

Projects

GA
(Website: https://goo.gl/H5BJcu) Nov 2017 – Present
- 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 – Present
- Designed and implemented a damage detection technique for masonry structures based on convolutional neural networks and a sliding window algorithm using Caffe and Python
- Aplied region-based convolutional neural networks (Faster – RCNN) to the technique using Caffe and MATLAB

Course Support
(Website: https://goo.gl/mBfJLR) Sept 2017 – Dec 2017
- Wrote parts of the course reader for *Control and Optimization of Distributed Parameters Systems* at UC Berkeley using LaTeX
- Simulated and visualized problems of partial differential equations using Python (NumPy & Matplotlib)

Distributed Displacement Measurement Technique for SHM Using Smartphones
(Website: https://goo.gl/C4kgfV) Aug 2015 – Mar 2017
- Designed an algorithm for distributed multipoint displacement monitoring based on computer vision techniques
- Participated in the development of an iPhone app *D-Viewer* for monitoring the micro displacement of structures

Large-scale Regional SHM, Data Mining, and Rapid Evaluation Based on Smartphone Cloud Monitoring
(Website: http://www.cloudshm.com) Sept 2014 – Sept 2015
- Utilized the inner sensors of smartphones and external servers to build networks for structural health monitoring
- Participated in the development of an iPhone app *Orion CC* for cloud structural health monitoring

Public Participation Emergency Communication and Rapid Loss Evaluation System for Earthquake Zone
Jan 2015 – July 2015
- Applied and refined a data mining algorithm to build a loss evaluation system based on the seismic intensity scale of China via collecting questionnaires

Publications

- **Zhao, Q.,** Wang, N., Zhao, P., Li, S., & Zhao, X. Damage Detection for Masonry Structures Based on Deep Learning. *Computer-Aided Civil and Infrastructure Engineering.* (submitted)
- 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)