Franklin (Qingan) Zhao

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https://goo.gl/5yajUp

Education

2018 – 2019 (Aug – May) **Master of Professional Studies**
Cornell University
Computer Information Sciences, Data Science
GPA: 3.8/4.0

2017 – 2018 (Aug – May) **Master of Science**
University of California, Berkeley
Systems Engineering, Data Science
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 data pipeline design of the advanced analytics customer engagement platform for the client – Kafka for real-time streaming; Kubernetes for independent modeling/granularity/data processing (using Python and Java); Blob Storage for Master Data Management (MDM); MySQL for basic analysis; Spark for ML; Tableau for reporting; various APIs for consumer targeting – All implemented on MS Azure
- Deployed a demo of Single Customer View (SCV) modeling and analysis for the client using Python and Spark (classification learning); a demo of Key Performance Indicator (KPI) analysis using Python, MySQL and Tableau

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
- Contributions include undergraduate team leading, project management, algorithm design, process and application design, coding, visualization, platform development, laboratory tests and technical paper writing

Computer Skills

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

Software & Tools
Git/GitHub, MySQL, PostgreSQL, 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 and built the models 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)