Kungang Zhang

Seeking Software Developer Internship
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EDUCATION

NORTHWESTERN UNIVERSITY

Ph.D. Candidate in Industrial Engineering & Management Sciences
Expected Sep 2019 | Evanston, IL

M.S. in Industrial Engineering & Management Sciences
Sep 2016 | Evanston, IL
Cum. GPA: 3.81
Conc. in Statistics & Optimization

DUKE UNIVERSITY

M.S. in Mechanical Engineering
Dec 2014 | Durham, NC

PEKING UNIVERSITY

B.S. in Applied Mechanics
Jul 2012 | Beijing, China

LINKS

Github:// **kungangzhang**
LinkedIn:// **kungangzhang**
Website:// **kungangzhang**

COURSEWORK

GRADUATE

Machine Learning
Convex Optimization
Predictive Analytics
Statistical Pattern Recognition
Bayesian Statistics

MOOC

Full Stack Software Engineering
Full Stack Data Analysis
Data Structures and Algorithms
Introduction to Databases

SKILLS

PROGRAMMING

Programming language:
Java • C++/C • JavaScript • R • Python
Full Stack:
Node.js • Nginx • Angular.js • Docker
Database:
MySQL • MongoDB • Redis • Cassandra

FULL STACK PROJECTS EXPERIENCE

FULL STACK SOFT ENGINEERING PROJECT: TINYURL

- Designed a web server and routing features to manage requests to short urls based on Node.js and express module
- Designed a RESTful API and configured a MongoDB database to manage short and long urls
- Implemented load balancing on a distributed system using Nginx
- Deployed Cassandra databases to public clusters using Docker
- Conducted A/B test using Mocha and Apache Bench
- Developed a feature of expiration of urls

FULL STACK DATA ANALYSIS: HOUSE PRICE AT SHANGHAI

- Developed a crawler to collect online data
- Managed data using MySQL database
- Built a logistic regression model to classify the house price based on several features
- Visualized the distribution of house prices against their features using R package ggplot2

PREDICTIVE ANALYTICS: NEW YORK CITY PARKING TICKETS

- Used regular expressions to clean 9 million data of parking tickets in New York City from 2013 to 2014
- Built a predictive model to estimate the boundary of precincts in New York City based on features
- Used R to visualize the predicted boundaries of precincts

RESEARCH

DIMENSION REDUCTION USING INVERSE KPCA | Funded Graduate Research

Jun 2016 - Present | Evanston, IL

This project is aimed to developed an algorithm, called inverse KPCA, to reduce dimension of high-dimensional data. This algorithm can be applied on image data from industry to extract features and estimate variation sources. This algorithm is a generative method which has better interpretation than the KPCA. Besides, this method is supposed to improve the performance of that dimension-reduction method. Besides, I am interested in optimization of machine learning methods.

AWARDS

2016	Northwestern	Walter P. Murphy Fellowship
2016	Northwestern	Benjamin K. Sachs Graduate Fellowship
2012	Duke	Sam Y. Feng & Rose S. Feng Fellowship ($ 5000)
2013	Duke	MEMS Research Supplement ($ 5000)
2013	Duke	The 1st Year MEMS Fellowship
2012	PKU	President Fund for Undergraduate Research Training