

# RICHARD ZHAO

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## EDUCATION

### Carnegie Mellon University

GPA: 3.43/4.0 | May 2020

B.S. in Statistics and Machine Learning  
minor in computer science

## RELEVANT COURSEWORK

### COMPUTER SCIENCE

Machine Learning  
Algorithms and Data Structures  
Fundamentals of Computer Science  
Software Construction  
Web Prototyping  
Computing for Good  
Imperative Programming  
Interaction Design

### STATISTICS / MATH

Probability Theory  
Discrete Math  
Linear Algebra  
Statistical Inference  
Statistical Visualization (ggplot2)  
Data Visualization (d3.js)  
Modern Regression  
Introduction to Data Science  
Mathematical Software  
Statistical Computing  
Multivariable Calculus  
Statistical Methods  
Modern Regression

## SKILLS

### LANGUAGES

Python, Java, C, Javascript, R, SQL

### TOOLS & FRAMEWORKS

Git, Django, d3.js, HTML/CSS, Shiny,  
ggplot2, openCV, numpy, pyautogui,  
React, JUnit, Spring Boot, Material-UI

### MISC

Sony Vegas, OBS, Audacity

## EXPERIENCE – INDUSTRY

### Capital One

mclean, va

software engineer intern

june – aug 2019

- Developed data dashboard with React and d3.js to visualize hundreds of millions of customer records and to evaluate overall data pipeline health.
- Implemented real time tracking and logging of customer information files from different lines of businesses.
- Built RESTful API with Spring Boot to abstract querying from Spark log files and core customer databases.



### ASTM International

conshohocken, pa

product services intern

may – aug 2018

- Designed and improved UI for in-house statistical reporting software with Bootstrap and Material design.
- Developed software to parse databases and classify thousands of users with hierarchical clustering algorithms.
- Extracted and cleansed data for hundreds of client samples to construct a pipeline for data analysis and visualization with external R scripts.



### Digital Media Academy

cambridge, ma

curriculum developer / instructor

may – aug 2017

- Lead instructor for iOS development, Game Design, and Advanced Java.
- Led team of 3 to devise and revamp curriculum for advanced Java Course.

## ACTIVITIES

### Computing for Good

student developer

- Collaborated with local hospitals and UPMC to create applications to detect abnormal body behavior through body-worn sensors.
- Developed software to recognize atypical changes in human position and behavior in crowds with computer vision and time series anomaly detection.
- Analyzed thousands of 911 operator calls with natural language processing to improve location transmissions to EMS.
- Featured by Metro21 Smart Cities Institute.

## PROJECTS

### Pittlets | python, django, bootstrap, sqlite3

- Platform to help students solve housing issues. Making it easy for students to find roommates, post sublet listings, and transfer expiring leases.

### Schedulize | python, pandas, sci-kit learn, pygame

- Recommender system for course suggestions based on a student's academic record. Awarded Best Design Hack Winner at HackCMU.