Raymond Zou

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Education

University of Maryland — **College Park, MD**
B.S. Computer Science and Mathematics — **Aug. 2018 - May 2022**

- **Gemstone Honors Program**: an interdisciplinary undergraduate research program
- **Relevant Coursework**: Data Structures, Algorithms, Data Science, Organization of Prog. Languages, Computer Systems, Probability Theory, Applied Probability, Differential Equations, Multivar. Calculus
- **Technical Skills**: Java, Python, JavaScript, Ruby, Go, C, OCaml, C++, SQL, HTML/CSS, Git, MATLAB

Experience

Amazon — **Seattle, WA**
Software Engineer Intern — **June 2020 - Aug. 2020**

- Built software feature for handling defect shipments packed in oversized boxes in Amazon Fulfillment Centers affecting over 1.4 million shipments per year
- Developed Hazmat label validating feature preventing over 2.9 million packages from shipping without federally required labels per year
- Leveraged internal API's to refactor a diagnostic dashboard for automatic scanning and labeling machines
- Integrated Amazon SNS messaging for microservice interactions and aggregating defect codes for streamlined problem source identification using Elasticsearch

FedData — **Columbia, MD**
Software Engineer Intern — **June 2019 - Aug. 2019**

- Designed and developed internal research tool to simplify evaluating cyber-security due diligence for company consulting and acquisitions
- Implemented core logic and back-end of the application using Go, JavaScript, and SQLite
- Developed grading/scoring algorithm to assess company security protocols

Institute of Bioscience and Biotech Research — **Rockville, MD**
Research Assistant — **June 2017 - Aug. 2017**

- Performed techniques such as plasmid extraction, antibody purification, DNA sequence analysis using Chromaseq software, ELISA, and polyacrylamide gel electrophoresis
- Contributed to a project developing HIV-1 broadly neutralizing antibodies

Activities

MIND.ai (Gemstone Honors Program) — **College Park, MD**
Research Assistant — **May 2019 - Present**

- Research project incorporating machine learning techniques to the improvement of analyzing mental illnesses using various brain scans and neuroimaging data under Dr. Anil Deane
- Using unsupervised classification learning methods on fMRI brain scan images in order to perform cluster analysis and compare the clusters to those of the DSM-5

Bitcamp — **College Park, MD**
Logistics Organizer — **Nov. 2019 - April 2020**

- One of the largest collegiate hackathons hosting over 1,500 hackers and volunteers
- Recruited over 200 volunteers and mentors, organized multiple workshops, and delegated tasks for volunteers

Projects

US COVID-19 Visualization
A choropleth map visualization showing the spread and occurences of COVID-19 cases throughout the US by county over time and its impact on state unemployment rates. (Python, Plotly, NumPy, Pandas)

Jeopardy Question Search
A web app that searches and queries through all aired Jeopardy questions based on trivia categories and air dates. Capital One 2020 Software Engineering Summit winning submission. (JavaScript, Fetch API, jService API, HTML/CSS)

Lane Line Detection
A program that can identify road lane lines in an image or video applying basic concepts of computer vision: Gaussian blur, Canny edge detection, and Hough transform. (Python, OpenCV, NumPy, Matplotlib)