Sam Cowan

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EDUCATION

Boston University, Faculty of Computing and Data Sciences — Boston, Massachusetts
Major in Data Science — B.S. Expected May 2027
GPA: 4.00/4.00 | *Relevant Coursework*: Python, Rust, Linear Algebra, UX/UI Design
Activities: Upsilon Pi Epsilon Honor Society, Data Science Student Government

Stuyvesant High School — New York, New York
GPA: 4.00/4.00 | SAT: 1550 | Distinctions: National Merit Finalist, AP Scholar w/ Distinction *(x2)* — September 2019 - June 2023
Relevant Coursework: Software Development, Systems Level Programming, Java

PROJECTS

Expertify (Flask/Flutter) — *Jan 2024 - Present*

- Developed a fully-featured RSS Reader app with Flask backend and Flutter frontend, hosted on web with Azure
- Integrated MongoDB cloud database with GraphQL to hold and fetch user and feed data
- Implemented secure login system, search bar, subscription/unsubscription, bookmarks, feed creation, and other features

Better BU Dining (Python/Flask) — *Sept 2023*

- Scraped and filtered menu and nutrition information from the Boston University Dining website
- Deployed Firebase database to hold menu data scraped daily
- Developed a user-friendly UI to easily serve users with dietary restrictions

RateMyProfessors Rating Prediction (Python) — Dec 2023

- Analyzed dataset of 20,000 RateMyProfessors reviews for characteristics that most impacted professor ratings
- Trained random forest classifier and linear regression models to predict each professor's average rating
- Experimented with Word2Vec embeddings to compute attractiveness ratings for professors and conducted t-tests to determine statistical significance of correlations

Social Connection Graph Analysis (Rust) — May 2024

- Cleaned and re-formatted graph dataset of Facebook social connectedness between US counties and world countries
- Constructed minimum spanning tree of the dataset, keeping most connected edges between locations
- Analyzed results to verify unexpected relationships, discovering that regions' closest links were unexpectedly strong

TECHNICAL SKILLS

Programming Languages: Python, R, Rust, Java, C
Frameworks: Flask, Flutter, Bootstrap
Other: Pandas, SQL, MongoDB, GraphQL, HTML, Git, DigitalOcean, Selenium, Firebase, Unix, Postman, VBA, Microsoft Office

WORK EXPERIENCE

Philip Habib and Associates — *May - August 2024*
Transportation Engineering Intern

- Compiled a database of 5000+ data points sourced from previous projects to assist with automating trip generation analysis
- Conducted field visits around NYC to perform counts, measurements, and other observations to assist with traffic forecasts
- Wrote Excel macros in VBA to increase productivity of data entry tasks, with instructions for users without coding experience
- Modeled traffic noise by learning 2004 software and presented a 30-minute live tutorial to the planning department

Boston University — *March 2024 - Present*
Research Assistant

- Working with BU and Harvard researchers specializing in terrorism and radicalization
- Coding dataset for demographics and other factors with goal of analyzing underlying causes of violent extremism