Sam Cowan

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EDUCATION

Boston University Boston, Massachusetts
B.S. in Data Science, B.A. in Statistics Expected May 2027
GPA: 4.00/4.00 | Relevant Coursework: Intro to DS (Python), Programming for DS (Rust), Linear Algebra, UX Design
Activities: Upsilon Pi Epsilon CS Honor Society, Data Science Student Government

TECHNICAL SKILLS

Programming Languages: Python (Advanced), Rust , R, Java, C (Intermediate)
Frameworks and Libraries: Flask, Flutter, Pandas, Bootstrap, Selenium
Other Technologies: SQL, MongoDB, GraphQL, Unix/Bash, Git, HTML/CSS, Azure, DigitalOcean, Firebase, Microsoft Office

PROJECTS

Papyrss *(Flask, Flutter*) *January 2024 - Present*

- Developed and deployed an RSS reader web app on Azure, integrating Flask backend and Flutter frontend, enabling a crowdsourced list of feeds tracking most recent content of news sources and blogs
- Designed and implemented a GraphQL API to manage real-time user data and feed subscriptions using MongoDB Atlas
- Built secure user authentication, customizable feed categories, article bookmarking, subscriptions, and search functionality

Social Connections Graph Analysis (*Rust)* *April 2024*

- Processed and optimized a 1.1 GB dataset on Facebook social connectedness by deleting edges unnecessary for
- Created a Rust-based algorithm to compute minimum spanning tree of clique graph with 3,400+ vertices
- Discovered and documented insights into demographic and geographic ties between US counties and global countries, preserving 28% of connectedness despite eliminating 99.95% of edges

RateMyProfessors Rating Prediction (*Python)* *December 2023*

- Analyzed dataset of 20,000 RateMyProfessors reviews for characteristics most impacting 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

Better BU Dining (*Python, Flask)* *September 2023*

- Scraped and filtered daily menu and nutrition information from the Boston University Dining website with BeautifulSoup
- Integrated Firebase database for storage and retrieval of menu data and metadata
- Engineered a responsive UI allowing users to filter menus by allergens and dietary preferences

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 20+ field visits around NYC to perform counts, measurements, and qualitative observations for traffic forecasts
- Built 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 tutorial to PHA's planning department

Boston University
Research Assistant *March - August 2024*

- Collaborated with BU and Harvard researchers specializing in terrorism and radicalization
- Coded intervention dataset for demographics and other factors in order to uncover underlying causes of violent extremism

Course Assistant *September 2024 - Present*

- Assist professors of Rust-based data science class, including Unix commands, data structures, graph algorithms
- Hold office hours for 2+ hours per week to assist students with homework, test prep, and general understanding of material