

Sam Cowan

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EDUCATION

Boston University

Boston, Massachusetts

B.S. in Data Science

Expected May 2027

GPA: 4.00/4.00 | Relevant Coursework: Python for DS, Rust for DS, Linear Algebra, Algorithms, Databases, Statistics, AI/ML

Activities: Data Science Association (Principal Tech Lead), Sports Analytics Group (Events Coordinator), UPE CS Honor Society

WORK EXPERIENCE

Moody's Ratings

June - August 2025

Data Analyst Intern

- Automated the backfilling of location data for over 12k credits through Pandas data cleaning and joining, integrating 10+ public datasets with proprietary data
- Built PowerBI Dashboards using Azure Maps to assist analysts with workflows using geographic data, pushed to production
- Developed a process for geocoding 80%+ of new credits through a Flask web app and wrote documentation for future users
- Attended trainings and speaker events on credit analysis and financial modeling, and communicated with lead analysts

Boston University

Course Assistant

September 2024 - May 2025

- Assisted professors of Rust-based data science class, including Unix commands, data structures, graph algorithms
- Held office hours for 2+ hours per week to assist students with homework, test prep, and general understanding of material
- Graded 20 homework assignments and 2 semesters of final projects

Philip Habib and Associates (now AKRF)

May - August 2024

Traffic 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

PROJECTS

Papyrss (Flask, Flutter)

January 2024 - September 2024

- Developed and deployed an RSS reader web app hosted with Oracle VM, 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

Stock Market Prediction with Future News (Python/Tensorflow)

April 2025

- Extracted text from >2500 NYT front-page PDFs using PyTesseract OCR and generated embeddings via Nomic/Ollama.
- Engineered features with RoBERTa and MNLI to quantify articles' cosine similarity with 8 stock market-related statements.
- Used AlphaVantage stock data to model prior-day market movement using TensorFlow/Keras dense-dropout neural networks

Social Connections Graph Analysis (Rust)

April 2024

- Processed and optimized a 1.1 GB dataset on Facebook social connectedness by deleting irrelevant edges
- Built a Rust-based algorithm to compute the 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

TECHNICAL SKILLS

Programming Languages: Python (Advanced), Rust, R, OCaml, Java, C (Intermediate)

Frameworks and Libraries: Flask, Flutter, Pandas, Bootstrap, Selenium, Tensorflow/Keras

Other Technologies: SQL, MongoDB, PowerBI, Tableau, GraphQL, Unix/Bash, Git, HTML/CSS, Azure, DigitalOcean, Firebase, Excel