Cal Nightingale

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Software Engineer / Mathematician

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Hello! I am a Junior at Brown University studying Computer Science and Applied Mathematics. My interests include mathematical modeling, machine learning, and game theory, among others. Outside of academics, I enjoy reading, skiing, watching basketball, video editing and playing ultimate. I currently play for Brown's team, Brownian Motion, which finished second overall at College Nationals this past May. Please reach out with any questions!

Skills

Languages	Python, Java, C, SQL, Make, LaTeX, MATLAB, HTML
Development Utilities	VIM, VSCode, Git, Shell, AWS
Modelling	Google Sketchup, Solidworks, Autodesk Inventor

Technical Experience

Software Engineering Intern   **Aug 2020 — Sep 2022**
Algorex Health   *Boston, MA*

- Wrote robust backend code in python, Make, SQL, and Shell for client data ingestion
- Wrote algorithms to parse relevant information (headers, data types, etc.) out of various client data formats such as excel, csv, and zip files
- Wrote code to collect and visualize aggregate statistics and run background analysis on parsed client data to streamline downstream data science process

Research Intern   **Summer 2018**
North Carolina School of Science & Math   *Durham, NC*

- Researched and compared the performance of various algorithms applied to the Traveling Salesman Problem
- Final presentation can be found here

Software Development Intern   **Summer 2017**
Pratt School of Engineering, Duke University   *Durham, NC*

- Contributed to the Anaerobic Digestion Pasteurization Latrine Project, designed to "provide clean, sustainable, odor-free latrines for communities of 20-50 people with no water supply or energy source required"
- Wrote C code deployed to latrines in Kenya and the Philippines regulating their digestive processes and transmitting real time data

Education

Bachelor of Science in Applied Mathematics & Computer Science   **2024 — Expected**
Brown University   *Providence, RI*

- Cumulative GPA: 4.00
- Relevant Coursework: Introduction to Object Oriented Programming, Data Structures and Algorithms, Systems, Linear Algebra, Differential Equations, Probability & Statistics

Certificate of Secondary Education   **Jun 2019**
C E Jordan High School   *Durham, NC*

Projects

Filmsplice   **Python**
- Coded a utility for automatically downloading ultimate game film clips, splicing them together, and uploading them to YouTube
- See details at filmsplice.calnight.in

Games   **Java**
- Coded multiple mobile and classic games, including Doodle Jump, Pacman, and Tetris

Shell   **C**
- Coded a basic shell capable of parsing, forking, and executing user commands

Brownian Motion Website   **HTML**
- Responsible for maintaining the Brown Ultimate website

Activities

National Merit Scholarship Finalist	**2019**
Captain and President — *Jordan High Ultimate Frisbee Team*	**2018 — 2019**
Captain and Treasurer — *Jordan High Ultimate Frisbee Team*	**2017 — 2018**