Aidan O'Neill

603-498-0944 | oneillgq@bc.edu | linkedin.com/in/aidan-o-neill | github.com/oneillgq

Education

Boston College Chestnut Hill, MA
BA in Computer Science, BSc in Management: Concentration in Information Systems *Aug 2021 – May 2025*
GPA: 4.0/4.0
Coursework: *Operating Systems, Natural Language Processing (S25), Computer Networks, Algorithms, Computer Systems, Data Analytics and Applications*

Experience

Undergraduate Research Assistant Jan 2024 – Aug 2024
Boston College *Chestnut Hill, MA*
- Contributed to all stages of research on the diffusion of technical tools in the U.S. economy, focusing on data management and analysis using Bass modeling for comparison.
- Refactored a shared R codebase, ensuring efficient and reproducible data processing, including scraping Wikipedia for relevant data and working with large-scale datasets.
- Created visual diagrams for analysis, supported the literature review, and applied advanced R skills whilst learning new libraries (tidyverse, rvest, httr2, DIMORA).

Computer Science Society Treasurer Sep 2023 – Present
Boston College *Chestnut Hill, MA*
- Structured club's semester budgets, liaised with collegiate administration, and oversaw purchase approvals.
- Led fundraising initiatives and effectively managed the budget for a hackathon at Boston College, securing both school backing and outside sponsorship.

Undergraduate Teaching Assistant Jan 2023 – Present
Boston College *Chestnut Hill, MA*
- Teaching Assistant for Financial Accounting, Python Programming, and Data Analytics & Applications in R, providing assistance in course material and technical support.
- Led weekly discussions and debugged student code for Python programming, explaining core concepts, as well as key libraries and functions.
- Taught data object concepts, data cleaning principles, and API/web scraping strategies in R, while grading and providing feedback on assignments.

Projects

Personal Tutor | *CircuitPython, FeatherWingV2, FeatherS2, I2C Gamepad* Nov 2024 – Dec 2024
- Designed and developed a physical device for searching, displaying, and editing Magic: The Gathering cards, integrating a microcontroller, display board, and gamepad.
- Coded on-screen keyboard user-interface, loading bars, API queries, and image processing algorithms.
- Optimized memory usage in Python and implemented a rechargeable lithium-ion battery for portability.
- Featured on DIY project website Instructables, receiving hundreds of views.

Full Stack HTTP & DNS Servers | *Java, VirtualBox* Oct 2024 – Dec 2024
- Built an HTTP server with multithreading, error checking, and dynamic file response handling.
- Developed DNS server capable of parsing zone files and handling or redirecting queries for iterative resolution.
- Implemented DNS response caching with TTL for enhanced performance and reduced latency.

Rudimentary Shell & Memory Allocator | *C, Vim* Apr 2024 – May 2024
- Implemented a custom memory allocator using system calls, managing heap interactions, pointer conversion, and arithmetic for memory allocation.
- Developed shell capable of running basic commands like `ls` and `cat`, utilizing system calls for process execution.
- Focused on memory safety and efficiency, ensuring stable performance and optimal resource usage.

Technical Skills

Languages: Python, Java, R, C, JavaScript
Frameworks: CircuitPython, React
Developer Tools: Git, Vim, Oracle VirtualBox, VS Code, PyCharm, IntelliJ
Libraries: java.net, pandas, numpy, matplotlib