Brady Wales

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Education

Carnegie Mellon University | *Pittsburgh, PA* **Expected Dec 2024**

Pursuing Bachelor of **Computer Science** | GPA: **3.21** | Spring 2023 **Dean's List, High Honors**

Courses In Progress: **Deep Learning, Distributed Systems, Theoretical Computer Science, Introduction to Electronics**

Completed: Computer Systems, Software Engineering, ParallelSequential Data Structures & Algorithms,

Experience

Adaptive Phage Therapeutics | *Software Engineering Intern* | *Gaithersburg, MD* **Summer 2022 & 2023**

- Researched and applied **Graph Theory** and **Neural Networks** to **DNA Sequencing**.
- Developed a **Machine Learning** approach to fitting bacteria growth curves to mathematical functions.
- Wrote a search algorithm for machine learning to scan **over 3,000,000 genetic bases** to find and **count occurrences of 300 different subsequences** in **less than 10 seconds**. Drastically improved AI/ML workflow.
- Built **SQL** database storing **over 5,000** proprietary phage genome sequences to be used by other teams.
- Mastered AWS Tools and earned **AWS Certified Cloud Practitioner Certification.**
- Collaborated on Bioinformatics Projects using agile practices, including **Jira**, **Scrum**, and **Git**.

Sleep in Heavenly Peace | *Gaithersburg, MD* **Jan 2019 - Aug 2021**

Chapter Co-President

- **Co-founded** and led the Montgomery County, Maryland, Chapter of Sleep in Heavenly Peace, a nonprofit organization that builds and provides beds to children sleeping on the floor.
- Built and delivered over **35 beds** to children in my community sleeping on the floor.
- Raised and managed funds, handled bed requests, and **led volunteer build days**.

Projects

LSP | *Golang*

Live Sequence Protocol provides reliable and consistent communication between clients and servers on top of the existing UDP protocol. Written in Go, the API handles message ordering, data transferring, acknowledgments, and streaming information across the internet. Used LSP to simulate a distributed Bitcoin miner.

MyTorch | *Python: Numpy*

Numpy implementation of multi-layer neural networks without using libraries like PyTorch. Uses linear algebra and calculus to build and train deep learning models such as Convolutional and Recurrent Neural Networks.

HomePage | *Python: Pandas, Selenium, Tkinter*

Hackathon project to scrape web data from multiple different social media sites. Generates and displays a unified home screen with information scraped from all of the sources.

Malloc | *C*

Implemented the low-level Malloc, Calloc, and Free dynamic memory management functions from C. Handles, preventing memory access errors while minimizing additional information required to allocate bytes.

Tsh | *C*

Shell written in C. Reads user input in a loop, processes commands, and creates child processes. Handles termination of completed processes. Handles concurrent and background processes and I/O redirection.

Programming Skills

Languages: Python • C • Go • SML • Swift • SwiftUI • Java • JavaScript • HTML • Assembly • SQL

Other: TensorFlow • AWS • Lambda • EC2 • RDS • Athena • AWS Glue • S3 • UNIX • Git

Awards

AWS Certified Cloud Practitioner *2022 - 2025*

Eagle Scout *2019 -*