Brandon Gong

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EDUCATION

Brown University, Providence, RI | Expected Graduation: May 2025
Applied Mathematics and Computer Science Sc. B. | *Cumulative GPA: 4/4.00*

Relevant Coursework: Database Management Systems (CSCI 1270), Computer Systems (CSCI 0330), Machine Learning (CSCI 1420), Data Structures and Algorithms (CSCI0190), Software Engineering (CSCI 0320), Multiprocessor Synchronization (CSCI 1760), Statistical Inference I (APMA 1655), Operations Research (APMA 1210), Linear Algebra (MATH 0540).

Extracurriculars: Brown ICPC team (2022, 2023), Brown Chess Club

PROFESSIONAL EXPERIENCE

The Washington Post, Washington, D.C. | June 2023 – August 2023
Engineering Intern

- Overhauled IP-based paywall targeting functionality, achieving ~250x speedup using segment trees.
- Proved and implemented algorithm to statistically minimize average evaluation time of business rules.
- Integrated into Agile software development lifecycle, attending daily standups, sprint reviews, and refinements.

Axle Informatics (Contractor for National Institutes of Health), Bethesda, MD
Software Developer | August 2022 – March 2023

- Oversaw development of new Neo4j database tracking NIH funding on rare disease research.
- Trained BERT-based language model for classification task on 8.3k PubMed abstracts

Summer Intern | June 2022 – August 2022

- Designed and developed complex data deduplication algorithm, reducing duplicate nodes (-43.5%) and relationships (-45.8%) in production database.
- Led and documented setup and configuration of two new Amazon EC2 instances for testing and development.

Full Stack at Brown (club), Providence, RI | October 2021 – May 2022
Fullstack Engineer

- Worked on https://thecriticalreview.org/ (Brown's version of Rate My Professor) with a team of 9 using agile/scrum methodology.
- Implemented new account creation, email verification, password encryption flow.
- Developed new REST API endpoints to generate PDFs from survey data.

PORTFOLIO

siliconnn, arm64 Assembly | March 2023 – May 2023
https://github.com/brandon-gong/siliconnn

- Neural network implementation in pure Assembly for Apple Silicon.
- Parsing datasets from CSV, configurable layer sizes, training with backpropagation.

ptree.ml, OCaml | July 2022 – August 2022
https://github.com/brandon-gong/ptree.ml

- Multipurpose data serialization / deserialization library for OCaml.
- Parse INI, JSON, or XML to unified data structure that allows efficient, persistent edits.

neche, Rust | December 2021 – January 2022
https://github.com/brandon-gong/neche

- Neuroevolution-based checkers engine.
- Implements move generation, minimax tree search, and evolution.

Personal Blog | June 2022 – Present
https://www.brandongong.org/blog/

- Documenting recent learning and toy programs.
- Streamlined post creation, site updates with Jekyll; automatic RSS feed, sitemap generation.

SKILLS

Best Languages: Java, JavaScript, C, Python

Technologies: Firebase, React, Sklearn, Pytorch, Neo4j, SQLite, Linux, Git.