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, Operating Systems, Computer Networks, Compilers and Program Analysis, Multiprocessor Synchronization, Data Structures and Algorithms, Machine Learning, Optimization and Stochastic Calculus.

Extracurriculars: Brown ICPC team (2021 – top 20 in Northeast NA, 2022), Brown Chess Club

PROFESSIONAL EXPERIENCE

The Washington Post, Washington, D.C.
Engineering Intern — June 2024 – August 2024
- Designed and implemented new flexible backend payment system for all customer-facing WaPo services.
- Served as on-call engineer, responding to live incidents and monitoring systems.
- Built new proposed site search experience featuring improved autocomplete relevance and instant result suggestions.

Engineering Intern — June 2023 – August 2023
- Overhauled paywall targeting functionality, achieving ~250x speedup using segment trees.
- Proved and implemented algorithm that statistically reduced average evaluation time of business rules by up to 50%.
- Integrated into Agile software development lifecycle, attending daily standups, sprint reviews, and refinements.

Brown University, Providence, RI — August 2024 – December 2024
Undergraduate Teaching Assistant
- One of 11 UTAs for Computer Networks (CSCI 1680).
- Serve as mentor to teams as they implement IP and TCP in C, C++, Go, or Rust.
- Hold office and debugging hours throughout the semester.
- Assist in development of course support materials and interactive grading of projects.

Axle Informatics (Contractor for National Institutes of Health), Bethesda, MD
Software Developer — August 2022 – March 2023
- Oversaw development of new Neo4j graph database tracking NIH funding on rare disease research.
- Trained BERT-based language model for multiclass classification task on 8.3k PubMed abstracts

Summer Intern — June 2022 – August 2022
- Designed and developed deduplication algorithm, reducing 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 of responses and statistics from student survey data.

SELECTED PROJECTS

siliconnn — March 2023 – May 2023
https://github.com/brandon-gong/siliconnn
- Neural network implementation in pure ARM64 Assembly for Apple Silicon.
- Parsing datasets from CSV, configurable layer sizes, training with backpropagation.

ptree.ml — 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 — December 2021 – January 2022
https://github.com/brandon-gong/neche
- Neuroevolution-based checkers engine written in Rust.
- Implements evolution, move generation, and minimax evaluation with pruning and quiescence search.