

Brandon Gong

brandon_gong@brown.edu • <https://github.com/brandon-gong> • <https://www.brandongong.org/>
(901) 414-6057 • Houston, TX

EDUCATION

Brown University, Providence, RI Expected Graduation: May 2025
Applied Mathematics and Computer Science Sc. B. Cumulative GPA: 4/4.00
Relevant Coursework: Computer Networks, Multiprocessor Synchronization, Computer Systems, Data Structures and Algorithms, Machine Learning, Computational Linear Algebra, Operations Research, Numerical Optimization, Statistical Inference I.
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 August 2022 – March 2023
Software Developer

- 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.

RESEARCH

ExploreCSR January 2023 – present
Undergraduate Research Assistant

- Researching novel NoSQL distributed database architecture for efficiently querying dynamic keys via multidimensional hashing.
- Developed, tested, and benchmarked efficient algorithms for insertion, deletion, and querying.

PORTFOLIO

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.

SKILLS

Best Languages: Java, JavaScript, C, Python

Technologies: Java EE CDI, Quarkus, Firebase, React, Sklearn, Neo4j, Pytorch, Liquibase