

Allen Wang

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EDUCATION

Brown University, Providence, RI

Expected Graduation: **May 2026**

Bachelor of Science in Applied Mathematics-Computer Science

GPA: 4.00/4.0

Relevant Courses: Database Management Systems (*Teaching Assistant*), Operating Systems, Computer Networks, Computer Systems, Software Engineering, User Interfaces and Experience, Deep Learning, Machine Learning, Data Structures and Algorithms

Skills: C, C++, Go, Python, Java, JavaScript, React, Node, TypeScript, REST, GraphQL, Kafka, Swagger, Postman, SQL, NoSQL, Mockito, JUnit, Playwright, Spring Boot, Flask, Docker, Kubernetes, Gloo Gateway, Git, Gitlab, Azure, Pytorch, Tensorflow

Business Acumen: Project Management, Stakeholder Communication, Agile Methodologies, UI/UX Design, Presentation Skills

EXPERIENCE

USAA Bank, Software Engineer Intern

May 2024 – August 2024

Java, Spring Boot, GraphQL, REST, ReactJS, Mockito, Kafka, Swagger, Envoy, Gloo, OpenShift, Kubernetes

- Project 1: Integrated view / sync functionality for legacy Mainframe database of 13 million records into troubleshooter tool
- Reduced troubleshooting time by ~20 minutes daily per CBT troubleshooter and saved 2 weeks of potential delays
- Project 2: Developed new feature allowing developers to directly emit schema-validated Kafka events to topics
- Streamlined the testing process and enhanced efficiency for developer testing workflows

Wingspans (Techstars' 24 startup), Software Engineer Intern

May 2023 – May 2024

Gatsby, Node.js, React, Typescript, CSS, Firebase, Algolia, Cosmic

- Fully owned and launched gamification feature to 50,000+ users, boosting user engagement time by 71%
- Engineered adaptive feedback loop enabling users to like/dislike 10+ careers suggestions to refine recommendations
- Developed resume optimization tool using large language models to tailor resumes to specific job postings

Brown University CS Department, Software Developer

January 2023 – August 2023

Next.js, React, TypeScript, MUI

- Developed internal tool to address inefficiencies in lab time assignments, streamlining and standardizing class management
- Created custom frontend for managing lab times and grades for 600+ people classes, reducing administrative burdens

Brown Data Science Institute Lab, Machine Learning Research Assistant

March 2023 – August 2023

Python, Pandas, OpenAI

- Worked with team of 6 to address biases in large language models and ensure fairness in automated decision tasks
- Applied prompt engineering on US Census data to optimize prompts, enhancing prediction accuracy and minimizing biases

PROJECTS

Internet Radio, *Go, Sockets (TCP, UDP), Goroutines, Channels, Mutexes*

September 2024

- Developed server handling 10 radio stations, streaming music data at 16KB/s to clients (TCP for control, UDP for listening)
- Built CLI tools for station selection and multi-listener support, managing concurrency with goroutines, channels, mutexes
- Handled errors for timeouts (100ms) and invalid commands, ensuring protocol adherence and graceful socket closures

SpotiDuo, *TypeScript, Java, Spark, Azure*

February 2024

- Developed music-based language learning app rooted in research highlighting music's role in boosting retention, featuring karaoke-style lyric input alongside real-time translations for over 150 native dialects (supported through Azure)
- Crafted tiered difficulty system for lyric interaction and implemented Levenshtein algorithm for accuracy assessment
- Delivered personalized song recommendations based on user's initial selection, utilizing 20+ attributes (energy, mood, etc)

Database Indexing, *Go, Concurrency*

November 2023

- Developed thread-safe database indexing using B+Tree that allows for concurrent insertion, splitting, and traversal operations
- Constructed thread-safe extendible hashing system for rapid data lookups, employing mutexes and read-write locks to manage bucket overflow, dynamic table extensions, and optimal space utilization under concurrent access

ORGANIZATIONS

Brown University Database Systems Course, *Teaching Assistant*

May 2024 – Present

- Enhanced student learning through timely feedback and assistance during office hours and one-on-one sessions
- Developed and refined course materials for 80+ students, coordinating weekly projects and quizzes to reinforce learning

Full Stack at Brown, *Executive Board*

September 2022 – Present

- Led and mentored teams of developers, designers, and project managers, ensuring successful execution of 15+ projects
- Hosted weekly events and workshops for 100+ members, fostering skills in web development and project management