

Christopher Chen

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EDUCATION

Brown University

Sc.B in Computer Science and Applied Mathematics

Sep 2022 - May 2026

GPA: 3.94/4

Relevant Coursework: Design and Analysis of Algorithms • Machine Learning • Data Science • Database Management Systems • Computer Vision • Computer Networks • Operating Systems • Numerical Optimization • Operations Research

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C, Go, Rust, SQL, C++, Dart, HTML/CSS

Technologies: Node.js, React.js, Next.js, Express.js, AWS, Git, APIs, MongoDB, Docker, Figma, TailwindCSS

PROFESSIONAL EXPERIENCE

Hightainment

Software Engineering Intern

Remote

Jan 2025 - Feb 2025 (ongoing)

- Designed and implemented scalable APIs for core app features, including user favorites and watch provider management, while developing database schemas and models to support functionality
- Automated database updates with AWS Lambda, leveraging Python scripts to fetch data from TMDb APIs and FlixPatrol scraping, ensuring up-to-date media records

Vane

Software Engineering Intern

Remote

Jun 2024 - Oct 2024

- Led the migration from MongoDB to Supabase by designing database schemas and APIs, resulting in a 40% improvement in query performance and support for user management, authentication, and social features
- Designed and implemented landing pages for the iOS app in Flutter and Dart, including friend addition, event search, and user profile pages, contributing to the app's initial launch preparation
- Automated data collection with a Python-based web scraper, populating the Supabase database with event information and reducing manual data entry by 80%

Hack@Brown

Software Developer

Providence, RI

Sep 2024 - Feb 2025

- Built Hack@Brown's 2025 Hackathon website using JavaScript, TypeScript, and React, for use by 400+ attendees
- Supported the hackathon by creating coding starter packs for attendees and provided debugging/mentorship help

Brown Interactive 3D Vision & Learning Lab (BRICS)

Undergraduate Research Assistant

Providence, RI

Sep 2024 - Dec 2024

- Maintained a 10,000+ line codebase by creating a Github documentation page, enhancing usability for researchers
- Began developing a WebAssembly-based web interface to streamline C++ code management for IVL's 60+ motion capture cameras

PROJECTS

IP/TCP | [GitHub Link](#)

Oct 2024 - Dec 2024

- Designed and implemented a concurrent IP/TCP network stack in Rust, ensuring reliable data transfer with retransmission mechanisms, successfully handling up to 2% packet loss tolerance

DBMS

Sep 2024 - Dec 2024

- Engineered an ACID-compliant, thread-safe database management system in Golang with B+ tree and extendible hash indexing for data retrieval
- Implemented logical query optimization, bloom filters, and a write-ahead log (WAL) for crash recovery, incorporating hand-over-hand locking for high-throughput concurrency control

Weenix OS | [GitHub Link](#)

Jan 2024 - May 2024

- Developed a Unix-based kernel in C, implementing preemptive scheduling, context switching, and virtual memory management with demand paging and page replacement
- Engineered a multi-threaded file system with VFS and S5FS, supporting 1,000+ simultaneous user processes and optimizing file operations via buffer cache and POSIX system calls