

# Christopher Jeong

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## EDUCATION

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### Brown University

Sep. 2022 – May 2026

*Computer Science (BS), Mathematics (BS)*

*Providence, RI*

- **GPA: 4.0**
- Computer Science Coursework: **Data Structures and Algorithms, Operating Systems (Graduate), Computer Systems Security, Computer Networks, Machine Learning, Applied Cryptography, Compilers, Advanced Probabilistic Algorithms (Graduate), Design and Analysis of Algorithms, Object-Oriented Programming**
- Mathematics Coursework: **Statistics I + II, Linear Algebra, Cryptography, Optimization, Galois Theory, Abstract Algebra, Real Analysis I + II, Multivariable Calculus, Discrete Math**

## EXPERIENCE

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### Microsoft

May 2025 –

*Software Engineer Intern*

*Redmond, WA*

- Incoming Summer 2025, Payments Organization under Cloud & AI

### JPMorgan Chase & Co.

Jun. 2024 – Aug. 2024

*Software Engineer Intern*

*Wilmington, DE*

- Developed an internal **React/Java/Spring Boot** project management tool built on **AWS** tracking status of teams in all lines of business as well as agility metrics and internal mobility opportunities for **1,100 teams** and **35,000** employees.
- Engineered and maintained **RESTful APIs** in order to better coordinate API calls between in-house microservices within a **Java** environment. Reworked API calls to coordinate with the team's shift from **Angular** and a private cloud environment to **React** and **AWS**, ensuring consistency in the back-end during the transition of front-end frameworks.
- Created a **Kafka data pipeline** aggregating data from Jira to derive story progress that provides employees with real-time analyses of Jira story progress utilizing an in-house **Small-Language Model**.
- Architected a robust testing framework consisting of unit tests, component tests, and performance tests from the ground up using **JUnit** and **Jest**, increasing code coverage to **80%**.

### Brown University Department of Computer Science

Jun. 2024 – Aug. 2024

*Course Development Assistant*

*Remote*

- Debugged and stress tested multithreaded **C/x86\_64** programs with **10,000+** lines of code, ensuring a seamless fit between file system, virtual memory, threads, and processes, and ensured that the operating system could handle high-stress situations such as forkbomb attacks and full consumption of disk space.
- Implemented a threads package supporting multiprocessor programming, redesigning synchronization primitives such as mutexes and spinlocks as well as building a CPU scheduler.
- Handled the implementation of a **B+Tree** file system to introduce students to more realistic versions of modern file systems.

### Brown University Department of Computer Science

May 2023 – Aug. 2023

*Undergraduate Research Assistant*

*Providence, RI*

- Evaluated the intersection of **Natural Language Processing** and **Formal Logic** with application to robotics. Researched Partially Observable Markov Decision Processes and their applications to reinforcement learning
- Restructured existing **React/CSS/Node/MongoDB** web demonstration of the project by integrating leaflet.js, allowing users to give instructions to a robot and demonstrating how the instructions translated to linear temporal logic.

## PROJECTS

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### TCP/IP Stack | *Go, Networking*

Sep 2024 -

- Designed and implemented a **TCP/IP** stack in **Go** that supports routing with the **RIP** protocol as well as **TCP** Packet reordering. Developed an API for hosts and routers to send messages and print network status.

### Multiple Candidate Voting Protocol | *C++, CryptoPP, Cryptography, SQL*

Apr 2024 – May 2024

- Formulated a heavily mathematical protocol in **C++** that allows voters to anonymously vote for candidates using zero-knowledge proofs, ensuring votes and user information remain secure during network communication.

### Weenix | *C, x86\_64, Unix, Python*

Jan 2024 – Apr 2024

- Engineered a Unix-based operating system kernel from scratch that can run **C** programs. Implemented processes, threads, mutexes, virtual memory, physical memory, page tables, system calls and disk management.

## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, C#, SQL, MySQL, Go, JavaScript, TypeScript, HTML/CSS, OCaml, CUDA

**Technologies:** React.js, Node.js, NestJS, Kafka, Spring Boot, DropWizard, Jenkins, Maven, AWS, Spark, Memcached, .NET

**Developer Tools:** Git, Docker, VS Code, Postman, GitHub, BitBucket, Swagger, Redis, Zookeeper