

Julian Dai

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Education

Brown University

Providence, RI

Sc. B CS and Mathematics (GPA 4.0)

Sept. 2022 - Expected May 2026

- Relevant CS Coursework: Operating Systems, Applied Cryptography, Deep Learning, Software Engineering, Algorithms, Tackling Climate Change with Machine Learning, *Networks, Database Management (2024-2025)*
- Relevant Math Coursework: Abstract Algebra, Statistical Inferences, Differential Geometry, Real Analysis
- Activities: Brown Club Tennis

Experience

Ramp, Incoming Software Engineer Intern

Summer 2025

ATA, Co-founder

Jan. 2024 - Present

- Developing course-integrated, LLM-powered, cognitive tutor, empowered by multiagent pipelines, retrieval augmented generation, and knowledge graphs built on Google Cloud, Vercel, and React. Funded by [HazelTine Grant](#) and [B*](#).
- [Hack@Brown](#) Winner, deployed to **200+** students in Brown's Deep Learning course, handling over **5k** queries; set to deploy to **400+** students at Brown University in the Fall of 2024, including Prof. Andries van Dam's CS15

Atlas Lab, Research Assistant

June 2023 - Present

- Language-level Syscall Filtering
 - ❖ Developed a system that incorporated dynamic and static language analysis to perform language-level system call filtering in JavaScript under Prof. Nikos Vasilakis. Conducted a large-scale study on NPM, curating statistics on **three million** JavaScript packages in the registry to motivate the effectiveness of syscall filtering in JavaScript.
- LLM-Driven Secure Regeneration
 - ❖ Designed and implemented a system to regenerate third party libraries for supply chain security using LLMs, dynamic in-context learning and iterative revision optimizations to improve accuracy with DSPy under Prof. Nikos Vasilakis and Prof. Martin Rinard.

Brown University, Teaching Assistant

Jan. 2024 - June 2024

- Guided students, hosting weekly labs and hours, in concepts related to deep learning including neural networks, convolution, RNNs, seq2seq, and reinforcement learning in **CSCI 1470**, Brown's Deep Learning class.

Projects

Weenix | C

2024

- Unix-based OS kernel implemented in C. Implemented processes/threads, drivers, a file system, virtual memory, and syscall API.

Pix2Pix Terraform | Python, Tensorflow, PyTorch

2023

- Implementation of the GAN architecture in the Pix2Pix paper, trained on a dataset of curated satellite imagery to recreate earth-like satellite imagery from elevation maps.

Distributed Password Manager | C++, CryptoPP

2024

- Decentralized password manager that supports the storage of user information in a cryptographically secure and distributed manner, utilizing AES encryption and Shamir Secret Sharing.

Skills and Interests

Languages: Fluent English, Proficient in Spanish and Chinese

Technical: Python, Javascript, C, C++, Go

Tools: System Design, Security, LLMs, Data Science, Tensorflow, React, Flask, Google Cloud (GCP), GitHub, AWS

Interests: Tennis, Hiking, Fishing, Chess, Reading