

# ALEX DING

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## Education

### Brown University

September 2020 - May 2024

Concurrent B.S. and M.S. in Computer Science | GPA: 4.00

- > **Relevant Courses:** Operating Systems, Systems Security, Programming Languages, Applied Cryptography, Software Security and Exploitation, Computer Graphics, Prescriptive Analytics, Machine Learning, Blockchains.
- > **Head Teaching Assistant** for CSCI 1951A: Data Science.

## Work Experience

### Jane Street Capital

May 2023 - August 2023

Software Engineering Intern | Monaco, Networking; Kazoo, Core Services

### Google

September 2022 - December 2022

Software Engineering Intern | GCloud GCP, Anthos Storage

- > Released **Container Storage Interface** (CSI) Proxy v2 as a **Go** library to support **Kubernetes** storage drivers to run as privileged HostProcess Containers in **Windows**, eliminating the need to install separate binary in clusters.
- > Migrated GCP PD CSI **storage driver** to use CSI Proxy v2, running performance tests to verify lack of regression, fixing broken e2e **Prox** tests, and updating CI/CD pipeline to reduce image size on Windows by **99.5%**.
- > Built resource monitoring system in conformance test suite and evaluated CPU and memory usage for multiple Software-Defined Storage (SDS) solutions in various **GCP** and **baremetal clusters** similar to customer specs.

### Bloomberg LP

June 2022 - August 2022

Software Engineering Intern | Data Science Runtime

- > Built **Kubernetes**-native toolings to easily define end-to-end pipelines on **Argo** workflows capable of building, training, and serving ML models straight from source code to production.
- > Designed cross-cluster RBAC authentication with token exchange, cross-cluster IO with **GraphQL**, and cloud-native containerization with **Buildpacks**, implemented using **Go**, **Python**, and **Docker**.
- > Packaged cluster resources as **Helm** charts and orchestrated seamless migrations with **0** cluster downtime.

### Full Stack at Brown

June 2021 - Present

Projects Director

- > Coordinated **30+** project teams and directly managed several high impact projects, including Hours, Brown CS's TA hours queue management platform built in **Go** and **TypeScript** used by **1000+ students/month**, and The Critical Review, Brown's course review website used by **5000+ students/month**.

## Projects

Complete projects available on my [website](#)<sup>1</sup>

### Surrealist Cloth

- > **C++** graphics engine capable of rendering complex 3D scenes into images via ray tracing, implementing the Phong illumination model, texture mapping, as well as path tracing to support glass and metallic surfaces.

### SAT Solver

- > Solver for NP-complete boolean satisfiability problems powered by watched literals, conflict driven clause learning, custom variable decision heuristics, and random restarts, built in **Julia**.

## Skills

**Languages:** Go, Python, C++, C, Java, TypeScript, JavaScript, Rust, Julia, OCaml, Bash.

**Technologies:** SQL, Docker, Kubernetes, GraphQL, GCP, Git, Jira.

<sup>1</sup> I also did a ton of deep learning research and full stack development in my past, which you can read more about on my website.