

ALEX DING

Website: alexding.me | **Email:** alexander_ding@brown.edu | **Github:** alexander-ding | **LinkedIn:** alexander-j-ding

Education

Brown University

September 2020 - May 2024

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

> **Relevant Courses:** Operating Systems, Programming Languages, Software Security and Exploitation, Computer Graphics, Prescriptive Analytics, Machine Learning, Blockchains, Information Theory, Abstract Algebra.

Work Experience

Software Engineering Intern

June 2022 - August 2022

Bloomberg L.P., 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, deployed to clusters with **1000+** tenants.
- > Coordinated across the org to design cross-cluster RBAC authentication with token exchange, cross-cluster IO with **GraphQL**, and cloud-native containerization with **Buildpacks**, implemented using **Go**, **Python**, and **Docker**.
- > Improved **Jenkins** integration to support **semver**-compliant CI/CD of Argo workflow templates.
- > Packaged cluster resources as **Helm** charts and orchestrated seamless migrations with **0** cluster downtime.
- > Ran workshops and published internal tutorials to promote adoption of new toolings, reaching **100+** engineers.

Head Teaching Assistant for Software Security and Exploitation

April 2022 - Present

Brown University

- > Hired and managed **10+ TAs** to develop course materials in **C** and **C++**, host office hours, and grade assignments.

Projects Director

June 2021 - Present

Full Stack at Brown

- > 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**.

Head Software Engineer

June 2020 - September 2021

VotingSmarter

- > Interned over summer to build a political candidate matchmaker app using **React**, **Redux**, **SASS**, and **Firebase**, drawing in **1000+** users, and was later promoted to manage the whole developer team.
- > Engineered an internal admin panel with **Algolia** integration and a **Node.js** backend for the research team.

Projects

Complete projects available on my [website](#)

Surrealist Cloth

- > Custom **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

- > Blazing fast 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**.

Publications

Complete publications available on my [website](#)

- > Bryce Blinn, **Alex Ding**, R. Kenny Jones, Manolis Savva, Srinath Sridhar, Daniel Ritchie, "Learning Body-Aware 3D Shape Generative Models." **SIGGRAPH Asia 2022**. *In Review*.

- > **Alex Ding**, Qilei Chen, Yu Can, Benyuan Liu, "Retinopathy of Prematurity Stage Diagnosis Using Object Segmentation and Convolutional Neural Networks." **IJCNN 2020**.

Skills

Languages: Go, Python, TypeScript, JavaScript, Java, C, C++, Julia, Lisp.

Web Frameworks: React, React Native, SASS, Node.js, Next.js.

Technologies: MapReduce, Kafka, SQL, GraphQL, Kubernetes, Docker, Jenkins, Git, Jira, Unix, Bash.