

Ryan Zhao

ryanzhao@berkeley.edu | 203-859-0643 | github.com/KnightAsterial

Education

University of California, Berkeley | *Class of 2023*
Major: Computer Science, Minor: Math, GPA: 4.00

Relevant Coursework: Data Structures, Computer Architecture, Structure of Computer Programs, Discrete Math, Multivariable Calculus, Linear Algebra and Circuit Design

Skills

Languages: Java, Go, C, Python, C++, JavaScript + TypeScript, SQL

Frontend: HTML/CSS, Angular, React, React Native

Backend: Amazon Web Services, MapReduce, Apache Solr, PostgreSQL, Cassandra, MongoDB, Spring Boot

Experience

Lockheed Martin | *Software Engineer Intern*

July 2019 - August 2020

- Developed for Digital Academy, Lockheed's internal education platform used by over 23,000 employees
- Helped transform Digital Academy from a MEAN site with an Express backend into a serverless application built with AWS Lambda and NodeJS, reducing operational costs by 23% and allowing for zero downtime deployments
- Created full-stack AWS serverless applications using NodeJS, Angular, and DynamoDB for Lockheed's rapid prototyping team and implemented OpenID authentication for WordPress sites

RiskIQ | *Developer through Berkeley Codebase*

August 2020 - Present

- Developed MapReduce pipeline for RiskIQ to parallelize the extraction and aggregation of SSL server configurations from the world's ~2 billion hostnames, improving previous scan times by nearly 85%
- Worked with RiskIQ engineers to analyze hosts for vulnerabilities such as poodle, beast, and drown
- Scanned hosts using zgrab2, stored data in Apache HBase, and created indexed search using Apache Solr

DataStax | *Developer through Berkeley Codebase*

January 2020 - May 2020

- Built fault-tolerant database migration service to transfer existing Cassandra databases to the cloud
- Designed and created a multithreaded Go proxy that parsed Cassandra's binary protocol to direct reads/writes during migration for zero user downtime
- Implemented custom communication channel between migration and proxy to coordinate operations

Computer Science Mentors | *CS 61A Course Tutor*

February 2020 - Present

- Taught a weekly small-group class for students in Berkeley's introductory CS course
- Presented mini-lectures, guided students through practice problems, and offered support on course work
- Covered concepts such as recursion, mutation, and object-oriented programming

Projects

MIT Battlecode: AI Competition

- Headed a team of 3 to develop an AI to compete in a real-time strategy game
- Designed pathfinding and communication algorithms to improve AI efficiency
- Placed in Top 10 High School Teams in 2018

CalPass

- Developed mobile application for UC campus student organizations to easily manage event ticketing and check-in
- Built frontend with React Native and backend with PostgreSQL and AWS Lambda

Awards

Lockheed Martin's AWS Gameday Champion

- Placed 1st out of LM's 2020 cohort of 2000 interns
- Leveraged AWS tools like EKS, CloudFront, and Forecast to best solve the Gameday's challenges

American Invitational Mathematics Exam (AIME) Qualifier

- Recognized for scoring among the top 5% nationally in the American Mathematics Competition

National Merit Scholarship Recipient

- Received a scholarship awarded to 2500 students out of 1.6 million applicants