

Jonathan Kao

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EDUCATION

Masters of Science in Engineering, Computer Science

University of Pennsylvania • Philadelphia, PA • 2024

Bachelor of Science in Engineering, Computer Science

Minor in Mathematics • University of Pennsylvania • Philadelphia, PA • 2024

Bachelor of Science in Economics, Finance

Wharton School • Philadelphia, PA • 2024

CERTIFICATIONS

USA Computing Olympiad – Platinum Division

<http://usaco.org/> • 2020

Highest division within competitive programming olympiad circuit (top 150 contestants). Self-learned advanced data structures, algorithm design, quantitative thinking, and problem solving techniques in C++ and Java.

EXPERIENCE

Software Engineering Intern

Tempus Ex Machina

May 2022 – August 2022, San Francisco, CA

- Joined the infrastructure team of a startup with vast amounts of exclusive NFL/PAC-12 synchronous video and player tracking data, 50+ employees, and \$40M+ in funding.
- Created two CDK constructs libraries using object oriented principles in Typescript that created abstractions for and modernized the AWS Cloudformation stacks of 20+ teams across the organization, promoting increased security and increasing development velocity for services and teams across the company.
- Drove the creation of a terminal CLI using compositional techniques in Go for a suite of developer tools to increase accessibility and ease of packaging, distributing, and consumption of 10+ internal libraries.
- Created a generic Github Actions library bootstrapped with common patterns to help teams adopt DevOps best practices to decrease developer friction and better interact with internal infrastructure.

Software Engineering Intern

Very Good Ventures

May 2021 – August 2021, New York, NY

- Integrated with existing team workflows of a leading Flutter/Dart mobile app software consultancy firm with \$3M+ in Series A funding.
- Built scalable applications for 3+ clients using Flutter best practices and bleeding edge state management principles.
- Created a developer tooling library for the Bloc state management library which increased development velocity across the company.
- Developed an internal templating tool used on 25+ projects to streamline the project initialization process for the company, an otherwise repetitive and costly phase of the project lifecycle.

PROJECTS

Platform Team Lead

Penn Labs • August 2021 – Present

- Lead a team of 5+ DevOps and Backend engineers to build and maintain core infrastructure and authentication systems to serve the Penn community using Kubernetes, Terraform, and CDK technologies on AWS.
- Responsible (on-call 24/7) for the availability, security, spending, and scalability of 5+ organization products with 1,000,000+ page views and 10,000+ active users per year.
- Researched and implemented solutions for monitoring, security, and logging using Grafana and Datadog in order to gain better insights and alerts into the organization's Kubernetes cluster to avoid product downtime.
- Created organizational change by transitioning teams into adopting GitOps and DevOps best practices, decreasing organizational downtime and security risks, and increasing developer productivity.

UmpCast Management System Co-Founder

UmpireCast Inc. • January 2020 – Present

- Ideated, built, and scaled baseball umpire management and scheduling service actively in use by 10+ little leagues and amateur leagues across organizations with 300+ users, 2000+ games scheduled, \$250,000+ payroll handled.
- Received \$1000+ in startup grant funding and mentorship from the Wharton Innovation Fund.
- Built highly scalable and distributed micro-services GraphQL backend in TypeScript deployed into a Kubernetes cluster managed by Terraform in AWS.

SKILLS

Kubernetes, Terraform, CDK, AWS, GraphQL, TypeScript, Python, Go, C++, Java