

# 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

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## INVOLVEMENT

### Board Member

Penn Poker Club • August 2020 – Present

- Studied Nash equilibrium using equilibrium solvers to gain edge over opponents
- Put learning into practice by playing 150k hands at 50nL online with a 6bb/100 win-rate, lifetime \$15k+ in profits
- Organize and host home games and educational sessions in addition to trading firm sponsored tournaments

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## 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.

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## 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.

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## 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.