

Nathan Wang

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Education

Massachusetts Institute of Technology

June 2025

B.S. in Computer Science

GPA: 5.0/5.0

Relevant Coursework: Advanced Algorithms, Statistics, Probability and Random Variables, Computation Structures

Awards & Accomplishments

4x USA Computing Olympiad (USACO) Finalist

2019 – 2022

- One of 26 students invited to the United States Computing Olympiad's national training camp.
- Spent 1000+ hours writing 100,000+ lines of C++ code to solve challenging algorithmic problems.
- In 2023, helped coach the USACO IOI team.

5x American Invitational Mathematics Exam (AIME) Qualifier

2017 – 2021

Experience

Software Engineer Internship | [Codeium](#)

Jun 2023 – Present

- Researched and implemented quantization in a large language model built with Jax, PyTorch, CUDA, CUBLAS, and C++. After optimizations, model speed increased by ~1.5x with minimal accuracy loss.
- Identified performance bottlenecks by using PyTorch's profiler. Fused operations with custom CUDA kernels and used Cutlass to improve the unoptimized quantization implementation performance by ~1.7x.
- Rewrote our Jax training stack in PyTorch, leading to improved performance on GPUs.
- Modified a PyTorch dataloader to support a variable number of GPUs, saving thousands in training costs.

First-Year Trading and Technology Program | Jane Street

Mar 2023

- Learned about quantitative finance at Jane Street's trading program for select first-year undergraduates.

Co-Founder, Lead Developer | [USACO Guide](#)

May 2020 – Dec 2022

- Designed, developed, and maintained an [open-source](#) competitive programming training website. 50,000+ users, 300,000+ monthly pageviews, 200+ contributors, 1300+ GitHub stars, and 2,500+ Pull Requests.
- Used React, Gatsby, Tailwind CSS, Firebase Firestore and Authentication, Vercel, Google Analytics, Algolia, MDX v2, and Storybook to deliver a personalized, interactive user experience, increasing user retention.
- Created a dynamically scalable [code execution system](#) with AWS Lambda, DynamoDB, Node.js, Typescript, and Jest. Ran 3,000,000+ submissions at minimal cost with the serverless architecture.
- Built an [online IDE](#) with React, Next.js, Tailwind CSS, Firebase Realtime Database, Microsoft Azure, Playwright, and Typescript. Supports realtime code sharing, code executions, and intellisense. 50,000+ users.

Co-Founder, CEO | [Competitive Programming Initiative](#)

Sep 2020 – Dec 2022

- Founded a nonprofit organization with 50+ volunteers aiming to make competitive programming accessible to everyone. Organized classes, webinars, clubs, and more, impacting 50,000+ students.
- Created the organization website with React, Next.js, Tailwind CSS, Firebase, Vercel, and Mailgun to advertise our services and handle event registrations.

Co-Founder, CTO | Maatcha

Mar 2020 – Aug 2021

- Led a team of developers to rapidly create a social networking platform designed for students, facilitating 4,000+ connections and 42,000+ messages during the pandemic. Used React and Progressive Web App technologies.

Full-Stack Developer | Random Math

Sep 2018 – Aug 2020

- Created a website for a local tutoring company, increasing discoverability and registrations.

Skills & Interests

Skills: Machine Learning, Systems, PyTorch, C++, Python, React, Typescript, Firebase, Node.js, AWS, Azure, Docker

Interests: Board Games, Model United Nations, Speech, Debate, Politics, Poker