

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.

5x American Invitational Mathematics Exam (AIME) Qualifier

2017 – 2021

Neo Scholar Finalist

2023

Experience

Software Engineer Internship | [Codeium](#)

Jun 2023 – Aug 2023

- Led the initiative to quantize a large language model built with PyTorch C++, CUDA, CUBLAS, and Cutlass, achieving a ~2.3x speed increase for our company's product in just 11 weeks.
- Researched, implemented, and evaluated various quantization methods (QAT, PTQ, int8, int4, NormalFloat, etc.), comparing performance and accuracy tradeoffs.
- Coordinated with a team of interns to write custom Cutlass kernels for quantized matrix multiplications, resulting in a ~2x speedup with minimal accuracy loss. Wrote extensive documentation for future maintainers.
- Identified performance bottlenecks with Nvidia Nsight Systems profiler, fused operations with custom CUDA kernels, optimized memory traffic, and integrated FlashAttention to further increase performance by ~1.15x.
- Collaborated with other interns to migrate our Jax training stack to use PyTorch, enhancing GPUs performance.
- Worked on a distributed MapReduce data processing pipeline with Go and Kubernetes.

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.

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.

Skills & Interests

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

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