

Alan Tai

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EDUCATION

Northeastern University

Bachelor of Science in Computer Science, Minor in Economics

Relevant Coursework: Object-Oriented Design, Algorithms & Data, Intro to Databases, Foundations of Cybersecurity, Intro to Mathematical Reasoning, Discrete Structures, Foundations of Data Science, Physics 1 & 2, Calculus 1 & 2

Aug. 2024 – May 2028

Boston, MA — GPA: 3.926/4.0

TECHNICAL SKILLS

Languages: Java, Python, Lisp, TypeScript, Swift, HTML/CSS, LaTeX

Technologies: React, NextJS, Node, Tailwind CSS, PostgreSQL, VisionKit, AVFoundation, MediaPlayer, SwiftUI, Racket

Software: Git, VS Code, Office 365, XCode, Figma

EXPERIENCE

Teaching Assistant (CS2000)

Khoury College of Computer Sciences

Aug. 2025 – Dec. 2025

Boston, MA

- Supporting student comprehension in foundational program design and implementation concepts.
- Guiding students through labs and offering targeted support during office hours to resolve questions.
- Assessing student coursework, delivering detailed feedback to improve code quality.

Web Developer

FirstByte

Jul. 2025 – Present

Boston, MA

- Building a full-stack program management system using Next.js, Prisma, and Supabase, featuring user authentication (SSO with NEU accounts), program content storage (workshops, tasks, files), and attendance tracking.
- Improving website functionality and user experience by resolving complex issues with UI components and animations for a more polished and responsive interface.
- Direct contact management and updates for the website, ensuring an up-to-date professional public presentation.

PROJECTS

StudyBuddies | *React, Node.js, PostgreSQL, Socket.IO, OpenAI*

Jul. 2025 – Present

- Developed a **full-stack web** application that allows Northeastern students to instantly find and connect with classmates by enrolling in courses based on their specific CRNs.
- Engineered a secure REST API with Node.js, implementing JWT for authentication and using the Prisma ORM to manage a PostgreSQL database, while integrating Socket.IO for live user presence and messages.
- Provided a seamless experience for the user with an AI-powered feature that scans their schedule screenshot, which automatically adds new courses to the database, and enrolls the user.

PostureMaxx | *Swift, iOS, VisionKit, AVFoundation*

Mar. 29-30, 2025

- Spearheaded a team-driven effort to develop a real-time posture monitoring iOS app that helps users prevent chronic pain by detecting and alerting them to poor posture.
- Utilized a real-time pose detection algorithm using Apple's Vision and AVFoundation frameworks to compute shoulder-to-neck angles. Implemented temporal smoothing by averaging landmark positions over a rolling window to reduce jitter and improve tracking stability.
- **Awarded at VITAL's Hackathon out of 15 teams** for the successful implementation of complex on-device machine learning in a real-time health tool, developed in under 12 hours.

NUGuessr | *TypeScript, React, Node.js*

Feb. 7–9, 2025

- Led a team to build an interactive, GeoGuessr-inspired game tailored to help new and transfer students gamify their learning of the Northeastern campus layout.
- Constructed using React and Node.js, used Git for version control across frontend, backend, and UX design.
- Delivered a polished and functional application within 48 hours and won the **Best Beginner Award** at the HackBeanpot Hackathon out of 100 participants for its creative solution to a common student problem.

INTERESTS

Lifting, Rubix Cube, Rock Climbing, Restaurants, Disney World, Chess, Playing Video Games (Valorant, Minecraft), Hiking, Running