Alan Tai

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EDUCATION

Northeastern University   **Aug. 2024 – May 2028**
Bachelor of Science in Computer Science, Minor in Economics   ***Boston, MA — GPA: 3.926/4.0***
Relevant Coursework: Object Oriented Design, Algorithms & Data Structures, Intro to Databases, Foundations of Cybersecurity, Intro to Mathematical Reasoning, Discrete Structures, Foundations of Data Science, Physics 1 & 2, Calculus 1 & 2

TECHNICAL SKILLS

Languages: Java, Python, Lisp, JavaScript, Swift, HTML/CSS, LaTeX
Technologies: React, NextJS, Node, Tailwind CSS, Eclipse, VisionKit, AVFoundation, MediaPipe, SwiftUI, Racket
Software: Figma, Git, VS Code, Office 365, XCode

EXPERIENCE

Web Developer   Jul. 2025 – Current
FirstByte   *Boston, MA*
- Built an internal dashboard using TypeScript, React, and Nextjs, automating attendance tracking for better organization and future uses like executive board elections.
- Improved website functionality and user experience by debugging issues with animations and UI components.
- Managed and updated website content, including the executive board section, ensuring a polished presentation.

Teaching Assistant   Sep. 2025 – Dec. 2025
Khoury College   *Boston, MA*
- Delivering **personalized one-on-one tutoring** and outreach to support student comprehension and success.
- Conducting thorough review of course materials, including homework and labs, to ensure accuracy and clarity.
- Developing and refining autograding and infrastructure code to streamline course operations and improve efficiency.

PROJECTS

StudyBuddies | *React, Node.js, PostgreSQL, Socket.IO*   Jul. 2025 – Present
- Developed a full-stack web application to help college students find and connect with classmates in real time using specific course registration numbers (CRNs).
- Engineered the backend with Node.js and Express, implementing a secure REST API with JWT-based authentication and bcrypt password hashing. Utilized Socket.IO for live features like online status indicators.
- Built a frontend, managing application state with hooks and the Context API.

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.
- Developed 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.
- Created a high-impact health tool within 12 hours that **won an award at VITAL's Hackathon**, demonstrating successful implementation of complex on-device machine learning.

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.
- Built 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 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