

# Alan Tai

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## EDUCATION

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### 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

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**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

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### 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

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### Calendar App | *Java, Java Swing, JUnit*

May 2025 – June 2025

- Architected and led the development of a multi-modal calendar application in Java from concept to completion.
- Implemented a robust backend using the MVC design pattern and developed both a Java Swing GUI and a text-based command-line interface.
- Delivered a versatile scheduling solution capable of running with a full GUI, in an interactive text-mode, or in a headless mode for automated scripting.

### 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.

### ADHDLIST | *Swift, iOS*

Jan. 2025 – May. 2025

- Designed and developed a productivity application for iOS created to assist individuals with ADHD in improving their organization and focus.
- Independently handled initial UI/UX design. To motivate users, features like customizable reminders and gamification elements, such as rewarding consistent task completion with streaks, were implemented.
- Tailored a solution to help users with ADHD manage their tasks more effectively, encouraging consistent use through positive reinforcement.

### PostureMaxx | *Swift, iOS, VisionKit, AVFoundation*

Mar 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.

## INTERESTS

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