

# Raymond Tsai

Boston, MA 02115 | (424) 237 4608 | [tsai.ra@northeastern.edu](mailto:tsai.ra@northeastern.edu) | [LinkedIn](#) | [Github](#)

Availability: May-Dec 2024

## EDUCATION

**Northeastern University** - Boston, MA | Khoury College of Computer Sciences  
*Candidate for Bachelor of Science in Computer Science and Game Development*

Sep 2022 - May 2026  
GPA: 3.93/4.0

**Relevant Coursework:** Computer Systems, Algorithms & Data Structures, Object Oriented Design, Programming in C++, Fundamentals of Computer Science I & II

**Activities:** Game Studio Club, Electric Racing Club, Green Line Records, Music Production Club, NU Chorus

**Awards:** Dean's List Fall '22, Spring '23, Fall '23 | Honors Scholarship

## TECHNICAL KNOWLEDGE

**Languages:** Java, C++, C#, Python, HTML/CSS, TypeScript, Racket

**Applications:** Git | Unity | Docker | VS Code | Postman | CLion | Microsoft Office Suite | Confluence | Blender

## EXPERIENCE

**Web Developer** | Northeastern Electric Racing - *Boston, MA*

Sep 2023 - present

- Enhanced functionality across the frontend and backend of FinishLine, NER's product management website.
- Collaborated closely with an extensive team of developers to maintain organization and project alignment.
- Tech Stack: TypeScript, Postman, Prisma, Yarn, Docker, Git

**Software Lead** | First Robotics Competition Team 1197 - *Torrance, CA*

Jan 2022 - Jun 2022

- Led the software team in division of labor, programming of turret, SparkMAX motors, and Limelight tracking.
- Mastered the code base in just eight weeks, showcasing rapid proficiency without prior experience.
- Awards: San Diego Regionals Quarterfinalist, Autonomous Award 2022 | Los Angeles Regionals Semifinalist
- Tech Stack: Java, Git, WPILib, Limelight

**Software Intern** | Boeing Satellite Systems - *El Segundo, CA*

Jun 2021 - Aug 2021

- Led development of CI/CD Pipeline for automated testing and building, utilizing industry standard tools.
- Worked closely with Boeing employees and other interns to ensure precise execution and troubleshooting.
- Delivered a comprehensive presentation on project achievements to an audience exceeding 100 attendees.
- Tech Stack: Docker, Jenkins, Git, Python, SonarQube

## PROJECTS

**Automated Waffle Game Solver**

Dec 2023 - Jan 2024

- Designed and implemented recursive algorithms to analyze game states and identify optimal moves.
- Implemented strategic optimizations to minimize the number of permutations checked from the order of billions to thousands, rigorously addressing edge cases to ensure robust performance across diverse scenarios.
- Tech Stack: Java, Git

**Video to ASCII Art Rendering in Terminal**

Dec 2023

- Performed detailed brightness analysis on each frame of video, converting data into an ASCII visualization.
- Utilized multithreading to concurrently showcase video and play audio.
- Tech Stack: C++, OpenCV, MiniAudio, CMake, Git

**Soul Solace Horror Game**

Aug 2023

- Conceptualized and coordinated with a game designer to implement a state machine for handling in-game events.
- Engineered a non-Euclidian repetitive space, enabling players seamlessly transition from one space to another.
- Tech Stack: Unity, C#, Git

**MIDI Cascader**

Feb 2023

- Conceived and developed a MIDI Controller plugin enabling users to initiate a glissando of multiple notes by playing a single key on the keyboard.
- Received invitation by professor to showcase project at a Boston music technology conference.
- Tech Stack: JavaScript, Logic Pro

## INTERESTS

Music Production | Game Scoring | Game Jams | Piano | Audio Engineering | Robotics | 3D Modeling | Geography