

Raymond Tsai

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Availability: May-Dec 2024

EDUCATION

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

Sep 2022 - May 2026 (expected)
GPA: 3.93/4.00

Awards: Honors College, Honors Scholarship, Dean's List x3

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, Music Production Club, Green Line Records, NU Chorus

TECHNICAL SKILLS

Languages:

- Proficient: Java, C#, C++, Racket
- Familiar: Python, JavaScript, TypeScript, HTML/CSS

Applications: Git, Unity, Docker, VS Code, CLion, Microsoft Office Suite, Confluence, Blender, Logic Pro

Frameworks & Libraries: React, OpenCV, Prisma, Jenkins, SonarQube, Swing, Limelight, WPILib

EXPERIENCE

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

Jun 2021 - Aug 2021

- Spearheaded development of CI/CD Pipeline for automated testing and building, utilizing industry standard tools like Docker, Jenkins, and SonarQube.
- Collaborated with Boeing employees and interns to ensure precise execution and troubleshooting of the pipeline.
- Delivered a comprehensive presentation on project achievements to an audience exceeding 100 attendees.

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

Sep 2023 - present

- Enhanced functionality across the frontend and backend of FinishLine, NER's product management website using React, TypeScript, and Postman.
- Collaborated closely with an extensive team of 50+ developers to maintain organization and project alignment.
- Quickly acquired web development skills, successfully resolving tickets involving rerouting of backend logic.

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

Jan 2022 - Jun 2022

- Led the software team in programming turret, SparkMAX motors, and Limelight vision tracking of field objects.
- Ramped up familiarity of the code base in just 8 weeks, showcasing rapid proficiency without prior experience.
- Placed Quarterfinals in San Diego Regionals, Semifinals in Los Angeles Regionals, received Autonomous Award 2022.

PROJECTS

Automated Waffle Game Solver | Java, Git

Dec 2023 - Jan 2024

- Developed a program capable of rearranging letters in an unsolved Waffle game to find a solution.
- Designed divide-and-conquer algorithms to reduce permutations checked from billions to thousands, rigorously addressing edge cases to ensure robust performance across diverse scenarios.
- Strategically incorporated game rules and constraints, reducing solution time to < 300ms.

Video to ASCII Art Rendering in Terminal | C++, OpenCV, MiniAudio, CMake, Git

Dec 2023

- Collaborated on video brightness analysis using OpenCV, converting results into an ASCII visualization.
- Utilized multithreading to synchronize playback of video and audio simultaneously.

Soul Solace Horror Game | Unity, C#, Git

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.

MIDI Cascader | JavaScript, Logic Pro

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.

INTERESTS

Music Production, Game Scoring, Game Jams, Piano, Audio Engineering, Robotics, 3D Art, Geography, Wikipedia