

Ryan Zhang

571-585-3013 | ryanz2@andrew.cmu.edu | [linkedin.com/in/ryan-zhang-ba4232241](https://www.linkedin.com/in/ryan-zhang-ba4232241) | ryfz081.github.io

EDUCATION

Carnegie Mellon University

Pittsburgh, PA

Bachelor of Science in Computer Science and Audio Engineering
Dean's List

Aug. 2024 – May 2028

Relevant Coursework: Discrete Math, Data Structures & Algorithms, Electrical/Computer Engineering, Functional Programming, Linear Algebra, Multivariable Calculus, Music Theory, Audio Engineering, Music Technology

Thomas Jefferson High School for Science and Technology

Alexandria, VA

High School Diploma

Aug. 2020 – June 2024

Relevant Coursework: Artificial Intelligence, Computer Vision, AP Music Theory

SKILLS

Music Software: FL Studio, Pro Tools, MuseScore

Languages: Python, C, Javascript, R, MATLAB, Java, C++, HTML

Technologies/Other: Git/Github, MIDI, Electrical Engineering, Visual Studio, FMOD, Unreal Engine, TensorFlow, Numpy, Audio/Sound Design, Music Composition/ Production, Sound Recording, Microsoft Office, Machine Learning, Pandas

Hobbies/Interests: Jazz Improvisation, Biking, Lord of the Rings, Art History

EXPERIENCE

Open Source Python Developer

June 2025 – Present

Algorithms for Music Analysis and Data Science (AMADS)

Remote

- Worked on the premier Python package for symbolic music analysis
- Implemented music analysis algorithms to analyze musical features/elements of music files
- Translated MATLAB algorithms to Python
- Collaborated with professors and students across the world

Game Audio Intern

June 2025 – Present

Tanbii

Remote

- Created original game soundtrack and SFX for sustainability video game startup
- Collaborated with developers to implement audio in the game environment using middleware

Audio/Video Engineer and Recital Crew

February 2025 – Present

Carnegie Mellon School of Music

Pittsburgh, PA

- Setup audio/visual equipment for CMU School of Music concerts and events
- Ensured high quality live audio and visual recordings of events
- Applied audio engineering knowledge in a live setting

Sound Designer

October 2024 – Present

Lunar Gala

Pittsburgh, PA

- Worked on the largest fashion show in Pittsburgh
- Produced model walkout music/sound using FL Studio and a variety of VSTs
- Collaborated with fashion designers to achieve a shared creative vision

PROJECTS/WORKS

3rd Overall Place Hackathon Project: Hand Music | Javascript, Mediapipe

February 2025

- 3rd overall place at CMU's Tartan Hacks, the largest hackathon in Pittsburgh
- Utilized Google Mediapipe hand landmark detection to capture hand gestures
- Implemented customizable scale selection with automatic chord harmonizer based on hand motions
- Added instrument effect parameters that change with specified hand gestures

Emotion Detection Piano Visualizer | Python, TensorFlow, MIDI

August 2023 – June 2024

- Analyzed MIDI data from MIDI device/MIDI file to generate visuals using PyGame library
- Implemented computer vision and neural network to track face and assess facial emotion to control color
- Selected to present at TJ Alumni Day where 50+ alumni attended