

# Junhao Zhang

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## Education

### University of Illinois at Urbana-Champaign

Bachelor of Science in Mathematics & Computer Science

Champaign, IL

Expected Graduation: 2029

### Mayo High School

Weighted GPA: 4.75/4.00, SAT Score: 1580

Rochester, MN

Class of 2025

### University of Minnesota Talented Youth in Mathematics Program (UMTYMP)

Accelerated college mathematics: Math Analysis, Calculus I, II, & III

Rochester, MN

2018-2023

## Related Coursework

CS 225 (Data Structures & Algorithms in C++)

CS 128 (Intro to C++)

CS 128 Honors (Intro to Rust)

## Skills & Coursework

### Computer programming

Experience in Python, PyTorch, Rust, C/C++, HTML/CSS/JS, Node.js, Unity, and Blender.

Languages: Chinese (Native), Spanish (Advanced Conversational Proficiency), English (Native)

## Research

James, Jose K., M.D., Ph.D., Mayo Clinic AI & Informatics – Department of Cardiovascular Medicine

2024-2025

Research Mentorship

- Collaborated alongside mentor to research capabilities of the EchoCLIP model, based on OpenAI's CLIP model for determining the ejection fraction (EF) from echocardiograms
- Worked with Mayo Clinic's Google Cloud Console, deploying EchoCLIP onto the Mayo cloud
- Used the Stanford EchoNet-Dynamic Cardiac Ultrasound Dataset to analyze trends in the model

## Experience

### Mayo High School AP Computer Science A Teacher's Assistant

Rochester, MN

2023-2024

- Designed a grading tool to help grade students' tests and homework more efficiently
- Helped students understand CS concepts, Java programming, and homework
- Created interactive assignments to help students visualize data structures

### Violinist in Southeast Musician Youth Orchestra (SEMYO)

Rochester, MN

2015-2025

- Led the advanced orchestra as concertmaster in the region
- Performed in the SEMYO quartet, performed at community music events and senior centers

### Greater Twin Cities Youth Symphony (GTCYS)

Minneapolis, MN

2024-2025

- Played 2nd Violinist in the most advanced orchestra, conducted by Mark Russel Smith

## Volunteering

- Volunteered as a violinist and pianist at the Madonna Towers Senior Center
- Mayo Honor Society, 20 hours of volunteering per school semester

2022-2025

2023-2025

## Projects

### RusTX ([github.com/pranavpopuri/raytracing-in-rust](https://github.com/pranavpopuri/raytracing-in-rust))

2025-present

- Led a team of 3 to design and implement a ray tracer in Rust as a CS128 Honors final project
- Applied Rust's concurrency features to create a multi-threaded renderer with 5x performance gain
- Used the Rust ecosystem to import STL files to create complex renders

### Europa Language ([github.com/cursorweb/europa-lang](https://github.com/cursorweb/europa-lang))

2021-present

- Implemented a dynamic programming language in Rust with a recursive descent parser
- Led a community of 4 maintainers, overseeing code reviews and feature proposals

## Honors and Awards

- MadeWithReplit Hackathon, 2nd place
- Minnesota Winter Coding Competition, group 1st place
- Music Guild Scholarship Competition: strings Division, 2nd place
- Minnesota Music Teachers Association (MMTA) piano contest winner

2022

2021, 2022

2022

2022, 2024