

# Andrew Jo

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## Education

**Harvard-Westlake School**, 2020-2025, SAT super score 1600

End of 2023-24 GPA: uGPA 4.0, wGPA 4.35

Current GPA: uGPA: 3.99, wGPA: 4.43

**Programming:** Java, Python, C++, Github

**Game Dev:** Unity, Raylib

## Awards & Honors

- AIME Qualifier (Feb 2023, Feb 2025)
- Dr. Bob Award Winner from BWSI (July, 2025)
- Chemistry Olympiad 5<sup>th</sup> place in Southern California Region for National Exam (2025)
- FRC Worlds Championship Qualifier (April 2025)
- HW Game Jam 1<sup>st</sup> Place (Oct 13<sup>th</sup>, 2023)
- Lockheed Martin Code Quest 4<sup>th</sup> Place (April 22<sup>nd</sup>, 2023)
- Scholastic Art and Writing (2023-25)
- Gold Keys Photography
  - Silver Key Critical Essay
  - Silver Key Editorial Cartoon
- National Spanish Exam Silver (2024)
- USACO Silver
- National Forensics Association (NFA) State Quals Finalist
- Presidential Award Gold
- 3<sup>rd</sup> Dan black belt in Tae Kwon Do

## Extracurricular Activities

### • MIT Beaver Works Summer Institute 2025 – CyberOps

A 3-week exploration of the wide field of cyber security from theory to application. Building up from the anatomy of computers and operating systems, we analyzed attacks from every angle—virtual, personal, physical—and the protocols that continue to evolve to meet the demands of the increasingly complex systems that we employ.

### • Ryman Arts

*Graduate*

A comprehensive art program that has helped me explore art from foundational sketching to experimentation with different mediums such as charcoal and paint. Throughout the program, I've also had plenty of opportunities to expand my portfolio and make a variety of pieces.

- **Art Projects**

Developing a portfolio of traditional and digital 2D art.

## **CLUBS AND TEAMS**

- **School FRC Robotics Team**

*Scouting Member – Data Lead*

The scouting department is primarily focused on collecting data on other FRC teams during tournaments to identify good alliance opportunities and potential strategies. To accomplish this, we develop a web application that other members of our team can log information into which is processed and then stored in a database and retrieved as understandable graphs and statistics.

- **Video Game Design Club**

*Co Leader*

A club I began with a friend to dissect games to understand what makes them engaging and ultimately fun to players. From the programming of mechanics to the design of characters and worlds, we explain how to craft the experience you want your audience to enjoy.

- **Math Club**

*Member - Lead*

Learn and practice material for math competitions such as AMCs and AIME.

- **HackHW**

*Leader*

The HackHW Team runs annual hackathons and game jams at our school.

- **Speech Team**

*Member*

Practice for and compete in the National Forensics League speech tournaments. I participate in DUO and HI, both interpretive style speech events where you condense and perform a story in 10 mins.

## **COMMUNITY OUTREACH**

- **Math Tutoring**

- **Friends of the LA River (FoLAR) Summer Internship**

- **CD4 Youth Climate Advocate Program**

## **Research**

- **Shallow Water Dynamics Research**

Research project based on the shallow water equations, a system of differential equations that approximate the movement of water in shallow areas. This applies more broadly to fluids in shallow regions, and the goal is to use computer models to analyze the vortex on Jupiter known as the Giant Red Spot and how sheer winds on the planet affect its movement and circulation.

- **Graph Optimization of Subway Networks Research (LA Science Fair)**

Research project from science fair this year. Analyzed graphs in the United States by converting them to a computer science object called a graph which allowed for more numerical analysis of the efficiency and cost of subways and the training of an AI to build edges to optimize those parameters.

## Projects

- 2D Physics Simulation
- Procedural Animation
- Prismatario Game (2023 HW Game Jam)
- Billy Bob the Brave Game (2023 GMTK Game Jam)