

## Co-curricular Activities, Awards, and Leadership

### Independent Engineering Research

- “HelioSphere: Buckyball Fresnel Concentration for Enhanced Power Generation” (2025 ~ Now)
    - Designing a buckyball-shaped solar energy sphere with Fresnel lenses that collect more sunlight from multiple directions and focus it onto solar cells.
    - Building on last year’s gravity-driven solar tracking system to create a more advanced design that is more resilient under extreme weather conditions.
    - Planning to present this project at the 2026 Massachusetts Science & Engineering Fair (MSEF).
  - “An Eco-Efficient Solar Tracking System: Powering Off-Grid Communities Affordably” (2024 ~ 2025)
    - Designed and tested a gravity-driven solar tracker that uses timed fluid weights instead of electricity to follow the sun.
    - Awards
      - ▷ Top 300 Junior Innovator, 2025 Thermo Fisher Scientific Junior Innovators Challenge
      - ▷ First Place, 2025 Massachusetts Science & Engineering Fair (regional and state)
      - ▷ Engineering Excellence Award, 2025 MSEF
      - ▷ Lemelson Early Inventor Prize, 2025 MSEF
      - ▷ Taiwan utility patent granted for this system.
      - ▷ Finalist, 2026 National STEM Festival (competition ongoing)
- The competition is open to students in grades 7-12, making this selection as a middle school student an especially noteworthy achievement.

### Coding and Game Development

- Self-taught coding. Designed and programmed an original Python adventure game, “*Xiao-Long Fantasy World.*” (2024)  
Game video: <https://youtu.be/oQfb010JEnM?si=IRox113YfxtHTuVI>
- Planning to continue creating customized games for critically ill children, helping them feel valued and easing some of the pain in their daily lives.

## **Athletics and Music**

- Member of the middle school soccer, swimming, and track teams, participating in regular practices and competitive games against other schools. (2024 ~ 2026)
- Flute player in the school concert band, performing at school concerts and events (2023 ~ 2026)

## **Community Service**

- Volunteering with the Taipei Association for Critically Ill Children during summer breaks, helping organize movie outings for critically ill children and their families and contacting companies to seek sponsorships (2023 ~ Now).
- Teaching assistant for younger students at Union Hill School (2024 ~ 2025).

## **Club**

- Table Tennis
- Digital Design
- Ultimate Frisbee

## **Academic Enrichment**

- Science Olympiad team leader at school (2024 ~ 2025).
- Participant in Speech & Debate and DNA Exploration summer programs at The Hotchkiss School (2025).
- Planning Future Cities (Elective, 2025 ~ 2026).

## **Academic and School Awards**

- Worcester Academy Core Value Award for Respect (2025).
- Worcester Academy Excellence Award for Excellent Effort in all classes (2025).
- Worcester Academy Ambassador (2025).
- Worcester Academy Advisory Representative (2025).
- ACSI Math Olympics – First Place (2023) and Third Place (2024).
- First Place, Chinese Speech Contest, Boston Tzu Chi Academy (2023).