

HUI PENG JOHN YAO

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Website: <https://www.johnergy.net/> (John's card game adventures in one place!)

EDUCATION

THOMAS JEFFERSON HIGH SCHOOL FOR SCIENCE AND TECHNOLOGY (TJHSST)

Alexandria, VA

- **Graduation:** June 2025 | **GPA:** 4.533 (Weighted) | **SAT:** 1580 (EBRW 800, Math 780, Aug 2023)
- **AP Courses (score):**
 - May 2023: AP Computer Science A (5), AP Macroeconomics (5), AP Microeconomics (5).
 - May 2024: AP Calculus BC (5), AP Chinese Language and Culture (5), AP U.S. History (5), AP Physics C: Electricity and Magnetism (5), AP Physics C: Mechanics (5).
 - May 2025 (Planned): AP English Language and Composition, AP U.S. Government and Politics, AP Statistics.

RESEARCH

STRESS AND GAME-PLAYING STUDY (11TH GRADE)

Lead Researcher & Author

- Conducted university-level research with 139 participants on the impact of games on academic stress using the Perceived Stress Scale and Brief-COPE.
- Authored a paper titled “[The Role of Game-Playing and Coping Styles in Mitigating Stress Among Students](#),” accepted for publication by the *Whitman Journal of Psychology*. This study provided a comprehensive analysis of how different game types influence stress reduction in academic settings.

EXTRACURRICULAR ACTIVITIES

[FRUITY FACEOFF CARD GAME](#) (10TH–12TH GRADE)

Inventor & Organizer

- Designed and produced a 120-card game featuring my 10-person LGBTQ+ friend group.
- Satirized academic and personal struggles using inside jokes and creative mechanics to foster relaxation and connection.
- Included everyone as characters to enhance our sense of belonging and provided a humorous outlet for stress.

THOMAS JEFFERSON MARCHING COLONIALS (TJMC) - MARCHING BAND (9TH–12TH GRADE)

Woodwind Captain (12th Grade); Section leader (10th–11th Grade)

- As Woodwind Captain, led 40 musicians and mentored 8 section leaders, collaborating with the band director on strategic decisions to enhance the band's performance and cohesion.
- As Section Leader, led 15 clarinetists, fostering section spirit and unity.

GAME ENSEMBLE (9TH–12TH GRADE)

Co-founder and Rehearsal Coordinator

- Co-founded and led a band club of 20+ members performing popular video game music on classical instruments.
- Organized lunchtime and 8th-period rehearsals, managed talent show performances, arranged custom music for engagement and challenge, and guided musicians of all skill levels in collaboration with experienced players.

[MARCHING MAYHEM CARD GAME](#) (10TH–12TH GRADE)

Inventor & Organizer

- Developed a Pokémon-style card game for the marching band, featuring members as characters to build camaraderie.
- Created and distributed 50+ copies of the 90-card game with bonus packs, and organized tournaments to connect band members and boost team spirit.

TJHSST SCIENCE OLYMPIAD (9TH–11TH GRADE)

- Participated in Science Olympiad since elementary school.
- Joined the highly selective TJHSST Science Olympiad Team (45 members selected annually from all grades based on theory and building tests) in 9th grade.
- Competed in thermodynamics, experimental design, and engineering challenges like trajectory and battery buggy, earning 20+ medals.

HOBBY ENGINEERING PROJECTS (9TH–12TH GRADE)

Independent Builder

- Built innovative devices, including a pneumatic cannon used by my chemistry teacher to demonstrate gas laws.

- Designed and hand-painted foam swords for children, crafted DIY tabletop games like mini pool and a custom penguin-themed chess board, and created a personalized plushie of my band director as a tribute for the marching band.

RESETTI SPAGHETTI CARD GAME (11TH–12TH GRADE)

Inventor & Organizer

- Created an innovative strategy card game themed around TJHSST academic life, offering a humorous and engaging outlet for academic stress.
- Soft-launched in Fall 2024 to foster social interaction and community well-being; received positive peer feedback, with plans underway for further expansion.

TJHSST 2025 CLASS COUNCIL (9TH GRADE)

President

- Elected President of TJHSST 2025 Class Council from a competitive pool to represent 550 students.
- Organized student activities and services, led fundraisers raising over \$5,000, and represented TJHSST in freshmen welcome events and videos. Later, I shifted focus to marching band leadership and other initiatives.

VENTURE CAMP (11TH GRADE)

Team Lead

- Led a team of four to develop Betalink, an Instagram platform with 7.5k views that connects startups with Gen Z customers and beta testers.

COMMUNITY SERVICE

ASPIRE PROGRAM VOLUNTEER (11TH GRADE)

- Taught engineering concepts to underserved kids in grades 3 through 8 using engaging and interactive methods to simplify complex ideas.
- Led group activities to promote teamwork and social skills while encouraging interest in STEM and improving problem-solving abilities.

SENIOR COMMUNITY HELPER (9TH–12TH GRADE)

- Supported elderly neighbors in my predominantly senior neighborhood by shoveling snow, managing yard work, and caring for plants during their vacations.

SCIENCE OLYMPIAD REGIONALS VOLUNTEER (10TH, 12TH GRADE)

- Helped organize and manage the Science Olympiad Regionals at TJHSST by coordinating the activities, promoting participation, and ensuring everything ran smoothly.
- Strengthened leadership and organizational skills while collaborating with others to make the event successful.

TJ INVESTIGATIVE SCIENCE OUTREACH EVENT VOLUNTEER (10TH GRADE)

- Judged at the TJ Investigative Science Outreach Event, providing feedback on middle school students' science projects, recognizing their achievements, and helping with scoring and problem-solving to make sure the event ran smoothly.

HONORS AND AWARDS

ACADEMIC HONORS

- National Merit Scholarship Semifinalist (12th Grade).
- AP Scholar with Distinction (11th Grade), AP Scholar (10th Grade).

SCIENCE OLYMPIAD

Earned 20+ awards, including:

- 16th Place in Trajectory out of 148 teams - Boyceville National Invitational (11th Grade).
- 8th Place in Experimental Design out of 35 teams - Carnegie Mellon University National Invitational (10th Grade).
- 1st Place in Experimental Design - Virginia Regionals (9th Grade).

OTHER ACHIEVEMENTS

- Member, TJHSST Chinese Honor Society (11th–12th Grade).
- Second Place out of ~30 teams – TJHSST Talent Show (Game Assemble Club Performance, 10th–11th Grade).