James Lin

Chester County, PA | james2009329@gmail.com | james2009329.github.io/portfolio | LinkedIn

EDUCATION

Downingtown STEM Academy — Downingtown, PA
IB Diploma Programme candidate — *Expected June 2027*

- GPA: 3.93 (unweighted) | SAT: 1550 (790 Math)
- Higher Level: Physics, Design Technology, Mathematics: Analysis and Approaches, Economics

EXPERIENCE

NASA SEES, UT Austin Center for Space Research — Austin, TX
High School Research Intern — *Summer 2025*

- Selected as 1 of about 80 students from more than 3,000 applicants nationwide
- Led CAD for a proof-of-concept Titan airship; designed the gondola, rear vectoring propeller, and skis in Fusion 360
- Modeled airflow in Earth and Titan conditions with Autodesk CFD
- Presented the team's research at the AGU Fall Meeting in New Orleans
- Co-wrote a microgravity air filtration proposal; named runner-up out of about 100 and selected as the alternate team

Engineering Content Creator — Instagram @jameslarpsandmakescoolstuff | X @JamesMakes29
Independent — *Ongoing*

- Document my engineering builds for 10,000+ followers across platforms, with 4M+ total views
- Followed by Jeff Bezos on X
- Sponsored by Bambu Lab, LDO Motors, and Cytron Technologies with parts and equipment

Zwei Restaurant — Exton, PA
Front Desk, Server, Busser — *2019 – 2026*

- Worked about 20 hours a week at the family restaurant taking orders, running the front desk, and bussing tables
- Designed and 3D printed fixes for the restaurant and handled small repairs and printer issues

AWARDS

- **FIRST Tech Challenge World Championship**: Alliance Captain, Lovelace Division; Sustain Award (Team 7244 Out of the Box Robotics, drive team and CAD)
- **TSA National Conference**: 3rd of 187, Geospatial Technology
- **TSA State Conference**: 3rd of 70+, CAD Engineering
- **Delaware Valley Science Fairs**: 3rd of about 50 team projects; West Pharmaceuticals Best Team Award ($700)

PROJECTS

- **Differential Swerve Drive**: Four-module drivetrain on 8 NEMA17 steppers, driven from a phone over WiFi
- **Robot Arm and Nitinol Claw**: Gear-driven stepper arm with a shape-memory-alloy claw, validated with FEA
- **Mechanical Integrator**: Disk-and-wheel integrator with a belt-driven differential, plus a math write-up
- **Eye-Operated Switch**: IB Design Technology IA for students with multiple disabilities (in progress)
- **Ultralight Drone**: Generatively designed arms checked with FEA; flight controller tuned in Betaflight

LEADERSHIP AND SERVICE

- **Class Council**, Vice President (Grades 11–12)
- **stemHACKs**, Vice President; CAD workshops helped 3 students qualify for TSA States
- **Campfire Chester County Hackathon**, Organizer of a 6-hour game jam with 25+ participants
- **Chester County Library Makerspace**, Weekly Volunteer; teach CAD, slicing, and 3D printing, maintain the Ender 5 and Voron 2.4, and built a machine that turns plastic bottles into filament
- **National Honor Society**, Member (Grades 11–12)

SKILLS

- **CAD and Simulation:** Fusion 360 (including generative design), Onshape, SolidWorks, Autodesk FEA and CFD
- **Fabrication:** FDM 3D printing (Bambu, Voron, Ender), 3D printer building and maintenance
- **Electronics and Programming:** ESP32, Arduino, stepper drivers, Betaflight, Python, Java, Swift