Eddie Tang

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Education

University of Illinois Urbana-Champaign — Urbana, IL
Bachelor of Science in Electrical Engineering — *Aug. 2025 – May 2029*
Minor in Computer Science & Semiconductor Engineering

Montgomery High School (MHS) — Skillman, NJ
High School Diploma | *GPA:* ***3.92*** — *Sept. 2021 - Jun. 2025*

Projects

Spaceshot Avionics | *Illinois Space Society* — October 2025 – Present

- Spearheading GATOR, an improved ground station and power distribution PCB to track rocket position and adjust Yagi antenna direction w/ servos, improving tracker accuracy with tilt and servo jitter correction.
- Designing and soldering CAM-MK3, a PCB used to transmit live camera feed/video at 915 MHz/5.8GHz to ground station. Testing both analog and digital transceivers and amplifiers for improved transmission success and quality by creating different PCBs.
- Operated ground station in rocket launch for LUNA by wiring SMA cables, constructing Yagi antennas, and maintaining stable radio communication. Achieved successful launch and recovery, reaching apogee at 13,000 ft.

HIL Test Stand | *Illini Solar Car* — October 2025 – Present

- Engineering hardware-in-the-loop (HIL) test stands, boards, and adapters for every PCB used in the vehicle using CANalyzer, CAN protocol, KiCAD, and MCUxpresso.
- Simulating various voltages, currents, temperatures, and fault conditions to see how the electrical system responds, ensuring system redundancy and discovering edge cases.

TARC Avionics V1, V2, V3 | *Montgomery Rocketry Team* — June 2022 – June 2025

- Designed and soldered custom Attitude and Heading Reference System (AHRS) PCB and software for active flight control to variable target-apogees with 80% success rate using EasyEDA.
- Developed and implemented quaternion-based algorithm to correctly integrate global acceleration for altitude.
- Coded Python scripts to analyze and simulate flights and test algorithms using past flight data.
- Ranked top 50 nationally at TARC Nationals against 1000 teams. Qualified twice for Nationals.

Genibook/Zenesus | *Personal Project* — July 2022 – June 2025

- Developed and open-sourced a full-stack gradebook viewer that web-scraped data from school's Genesis grade-book and displayed it via a Flutter app; ensured zero backend data retention for user privacy.
- Improved backend API scraping efficiency from ∼30s (Selenium + Flask) → ∼20s (BeautifulSoup + Flask) → ∼11s (Go Colly + Gin), reducing load time by >50%.
- Launched app on Play Store and App Store, gaining a total of 100+ installs.

Experience & Leadership

Research Assistant, Mechanical and Aerospace Engineering Department | *Rowan University* — Summer 2025

- Investigated effects of line defects in thermoelectric materials on lattice thermal conductivity using MD sims.
- Employed Green-Kubo method to calculate thermal conductivities from heat flux autocorrelation functions.
- Reduced simulation-to-data turnover times by creating Slurm workflow with Matplotlib, LAMMPS, and ASE.
- Lead author on in-preparation manuscript investigating line defect effects on thermal conductivity in Si and Ge.

Research Intern, Mechanical and Aerospace Engineering Department | *Princeton University* — Summer 2024

- Co-authored a peer-reviewed publication in ACS Energy Letters (Impact Factor: 19.3).
- Performed DFT calculations with VASP on WO_3 surfaces to advance plasma-assisted NH_3 synthesis research.
- Elucidated simulation data through custom Slurm workflow using ASE, Matplotlib, and NumPy in Python.
- Increased DFT simulation speeds by using DeepMD-kit to create ML force fields.

Vice President, Aerospace Club & Founder, Rocketry Team | *MHS* — Sept. 2023 – Jun. 2025

- Guided weekly meetings with 30+ students; raised $15K+ through STEM fundraiser initiatives.
- Engineered avionics payload for NASA TechRise; used FFT to analyze rocket vibrations; nationally qualified.
- Increased member attendance and participation by 10% by fostering a close-knit, community-first team culture

Skills

Programming Languages: Java, Python, C/C++, Bash, JSON
Software: Git, EAGLE, KiCAD, OnShape, NX Siemens, Platform-IDE, MCUxpresso
Fluent Languages: English, Chinese
License: HAM Radio Technician Class, Call sign: KE2CNQ