Jonathan Wan

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EDUCATION

Cornell University, College of Engineering **Expected Dec 2027 | Ithaca, NY**
Bachelor of Science, Mechanical Engineering, GPA: 3.80

Relevant Coursework: *Statics, Thermodynamics, MATLAB, Dynamics*, Mech Synthesis*, Mechatronics**

PROJECT EXPERIENCE

Cornell Electric Vehicles Project Team, *Drivetrain Team Member* **Oct 2024-Present | Ithaca, NY**

- Collaborated with 50+ interdisciplinary teammates to create an efficient (20.5 mi/kwh) level 2 autonomous electric vehicle
- Engineered custom wheel hubs for the 2026 vehicle, optimizing rim and tire selection to cut rolling resistance by 30% and implementing a one-way coasting system that reduced throttle engagement time
- Architected and modeled the steering system for an autonomous testing rig, achieving 99.5% Perfect Ackermann; derived tie rod lengths and pivot positions to minimize tire scrub and ensure accurate path tracking during low-speed maneuvers
- Partnered with electrical team to design a battery enclosure integrating Battery Management System and Isolation Board
- Produced shop drawings and machined battery enclosure components to ±0.005in using manual mill and lathe
- Performed Static Structural FEA to verify that the suspension interface assembly could withstand cornering load of 222 N

ZT Group, Co-Generation Lab, *Undergraduate Researcher* **Jun 2025-Present | Ithaca, NY**

- Designed a co-generation thermal stove using thermoelectric modules to simultaneously produce cooking heat and electricity
- Developed thermal conductivity testing on polyethylene glycol composites, determining optimal concentration that stabilizes hot side at target temperature, extending thermoelectric generator uptime and efficiency
- Conducted thermodynamic analysis to determine viability of evaporative cooling finding a 25% increase of total heat transfer
- Modeled and prototyped a passive evaporative cooling system improving thermoelectric generation efficiency by 20%

TEKS Spike Covers, *Additive Manufacturing Intern* **Jun 2025-Aug 2025 | Ithaca, NY**

- Maintained and performed maintenance on a fleet of 12 3D printers to ensure consistent uptime and product print quality
- Optimized print scheduling by aligning completion times, reducing machine idle periods and improving throughput
- Redesigned CAD models, reduced material use by 5%, by adjusting print orientation and support method
- Tested and implemented parameter adjustments to improve print quality reducing out of tolerance prints by 12%

Bewley Applied Turbulence Lab, *Undergraduate Researcher* **Jan 2025-May 2025 | Ithaca, NY**

- Conducted wind tunnel experiments to evaluate how varying windspeeds affect aerodynamic efficiency in turbulence
- Programmed and wired Arduino-based systems with Coolterm for experimental control and live data acquisition
- Processed Golden Eagle Model (GEM) lift force data in MATLAB (RMS and CRMC analysis) to identify trends in turbulent lift forces, finding a range of wind speeds where net turbulence produced measurable lift

LEADERSHIP EXPERIENCE

Society of Asian Scientists and Engineers (SASE), Events Coordinator **Apr 2025-Current**

- Implemented Mentorship program pairing 30+ new members with mentors increasing member retention by 50%
- Ran fundraising operations (inventory, staffing, advertising) that raised $1.5k for SASE Conference travel and lodging
- Co-hosted events with 10+ student organizations at Cornell, 3x first-time attendees based on QR check-n
- Executed professional programming (resume reviews, research symposiums, headshot clinics) averaging 30+ attendees

CAMPUS INVOLVEMENT

Cornell Engineering Advising, Peer Advisor **Aug 2025-Current**
Hunter Badminton, *Captain & Manager* **Sep 2019-Aug 2023**
New York Youth Tech Team, *President & Technology Director* **Feb 2017-Aug 2023**

SPECIALIZED SKILLS

Design & Simulation: Inventor, SolidWorks, NX Siemens, OnShape, Fusion 360, Ansys FEA, DFM, DFA
Manufacturing: Manual Lathe, Manual Mill, CNC, 3D Printing, Laser Cutting, Hand Tools
Programming & Analysis: Java, Python, MATLAB, Excel
Languages: Mandarin (Intermediate); Cantonese (Intermediate)