

# TYLER WISNIEWSKI

Ithaca, NY | Middletown, NJ | Los Angeles, CA

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**OBJECTIVE:** Seeking Mechanical Engineering Internship/Co Op roles starting Fall/Winter 2025

## EDUCATION

**Cornell University | M.Eng. Mechanical Engineering** Expected May 2026

**Cornell University | B.S. Mechanical and Aerospace Engineering, Dean's List x3, Cum Laude** May 2025 | GPA: 3.40

**Notable Courses:** Mechanics of Materials, System Dynamics, Fluid Mechanics, Mechatronics, Heat Transfer, Advanced Product Design, GD&T, Design for Manufacturing & Assembly, Fast Robots, Internet of Things, Digital Systems Design using Microcontrollers

## WORK EXPERIENCE

**SpaceX | Incoming Propulsion Engineer - Foundry; Graduate Engineer** Summer 2025 | Hawthorne, CA

To work on the Raptor Foundry Team manufacturing Rocket Engines. Utilizing Additive Manufacturing, Casting, and Tooling Design.

**General Motors | GMD Hardware Integration & Test Intern** Summer 2024 | Milford, MI

Designed, optimized, and manufactured chassis, ventilation, and electrical components in a dynamic engineering environment.

- Designed, Manufactured, and Integrated Electric Light Reconnaissance Vehicle eMotor Housing for the United States Army.
- Utilized Design for Additive Manufacture techniques to reduce eMotor Housing part count by 87% over previous year's design.
- Ran Articulation and Tramp studies in NX to validate clearance of Rear Axle assemblies, motivating design changes in 3 components.
- Validated Hood design change as a means to increase heat rejection of under-hood system at rest using Ansys Thermal Analysis.

**Cornell Electric Vehicles | Technical Full-Team Lead, Chassis Lead** 9/2022 - 5/2025 | Ithaca, NY

Directed 65-person self-driving electric car team; designing, analysing, and manufacturing vehicle systems and components

- Spearheaded cross-disciplinary technical roadmap for hyper-efficiency and level 2 autonomy, competition, and research outcomes.
- Achieved the team's highest-ever competitive performance, including completing our 1st Valid Urban Concept Run, placing 6th out of 27 at the Shell Eco-Marathon, earning awards (1st in Communication, 2nd in Data Analysis), and securing \$4,500 in prize funds.
- Designed and Manufactured the chassis Master Model to optimize aerodynamics, reduce weight, and create stiff vehicle structure.
- Utilized Ansys Fluent (Computational Fluid Dynamics) to iterate aerodynamic design, reducing drag by 6% over previous car design.
- Optimized Structural Components using Ansys (ACP, Mechanical) and Generative Design to reduce weight by 12% and cost by \$500.
- Led Manual and CNC Machining effort of all steering, powertrain, braking, and interfacing components and mechanisms.
- Led a record-breaking fundraising campaign, raising \$12,000+ from 173 donors in just 24 hours, setting new team/project team record

**Cornell MAE Emerson Machine Shop | Shop Supervisor** 11/2023 - 5/2025 | Ithaca, NY

- Provide comprehensive safety guidance and technical support to student machinists during 3 to 4-hour machining shifts in the shop.
- Ensure strict adherence to safety protocols, imparting detailed instructions on utilizing mills, lathes, and CNC machines in the shop.

**MAE 2250 Mechanical Design | Teaching Assistant** 1/2024 - 5/2025 | Ithaca, NY

- Taught a weekly laboratory class of 25-35 undergraduate students on the topics of Computer-Aided Design, Machining, 3D Printing, Laser Cutting, Design for Manufacturing, Rapid Prototyping, plastic and metal part design, and other mechanical synthesis skills..

## PROJECT EXPERIENCE

**Wiski Fins: Carbon Fiber Surfboard Fins** Design, Manufacturing, Entrepreneurship

Design, Manufacture, and sell Carbon Fiber Surfboard Fins; providing fins of the highest quality at a fraction of the retail cost.

- Iteratively design the most efficient fin possible utilizing airfoil analysis in Xfoil, Surface Modeling, and Ansys Fluent (CFD).
- Design and manufacture custom molds using high-infill PETG 3D prints for Forged Carbon Fiber fin layups.
- Validate fin Yield Strength and Young's Modulus through tension test according to ASTM D 3039 Testing Procedures.

## SKILLS

**Design:** CAD (Inventor, Fusion 360, Siemens NX, TC Vis, Alias), Master Modeling, CAM, Altium, DFM, GD&T, Modular Design

**Manufacturing:** Machining(Mill, Lathe, 4-Axis CNC), 3D Printing, Carbon Fiber Composites (Vacuum Infusion, Wet Layup, Forged)

**Analysis:** Ansys Finite Element Analysis(Mechanical, ACP, Fluent CFD, Thermal, Granta), Simulink, Tolerance Stackup Analysis

**Computer Literacy:** MATLAB, C, Arduino, C++, Python, HTML/CSS, G-Code, LaTeX, Microsoft Office, Confluence

**Additional Involvements:** ZT Group, Der Hexenkreis Honor Society, Orientation Leader, ΦΣΚ, ΘΤ, CU EMPower, Rock Climbing