# TYLER WISNIEWSKI

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**Objective:** Seeking Mechanical Engineering Internship roles for Fall/Winter 2025

## EDUCATION

**Cornell University** | **M.Eng. Mechanical Engineering** Expected May 2026
**Cornell University** | **B.S. Mechanical and Aerospace Engineering,** Dean's List x2 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.
- Maintained and raced a fleet of Corvettes and Camaros during work sessions as an active member of the Performance Driving Team.

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

Directing 65-person self-driving electric car team; designing and manufacturing carbon fiber composites and vehicle mechanisms

- Spearheading cross-disciplinary technical roadmap for hyper-efficiency and level 2 autonomy, competition and research outcomes.
- Design and Manufacture the chassis Master Model to optimize aerodynamics, reduce weight, and create stiff vehicle structure.
- Utilize Ansys Fluent (Computational Fluid Dynamics) to iterate aerodynamic design, reducing drag by 6% over previous car design.
- Optimize Structural Components using Ansys (ACP, Mechanical) and Generative Design to reduce weight by 12% and cost by $450+.
- Lead Manual and CNC Machining effort of all steering, powertrain, braking, and interfacing components and mechanisms.

**Cornell MAE Emerson Machine Shop | Shop Supervisor** **11/2023 - Present** | 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 - Present** | 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 and other mechanical synthesis skills and concepts.

## 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), Carbon Fiber Composites (Vacuum Infusion, Wet Layup, Forged), 3D Printing
**Analysis**: Ansys Finite Element Analysis(Mechanical, ACP, Fluent CFD, Thermal, Granta), Altair (Sim Solid), Simulink
**Computer Literacy**: MATLAB, C/Arduino, C++, Python, HTML/CSS, G-Code, LaTex, Microsoft Office, Confluence

## ADDITIONAL INVOLVEMENTS

Emerson Machine Shop, *Shop Supervisor*; ZT Group, *UG Researcher*; Theta Tau Professional Engineering Fraternity; Der Hexenkreis chapter of Mortar Board; CU EMPower, *Mentor*; Tatkon Center for New Students, *Orientation Leader*; Phi Sigma Kappa, *J-Board*