TYLER WISNIEWSKI

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Objective: Seeking Mechanical Engineering Internship roles for Summer/Fall 2025

EDUCATION

Cornell University | **M.Eng. Mechanical Engineering** Expected May 2026
Cornell University | **B.S. Mechanical and Aerospace Engineering,** Dean's List SP24 May 2025 | GPA: 3.40
Notable Courses: Mechanics of Materials, System Dynamics, Fluid Mechanics, Linear Algebra, Mechatronics, Heat Transfer, Dynamics, Advanced Product Design, Mechanical Synthesis, Differential Equations, Multivariable Calculus, Quantum Physics

WORK EXPERIENCE

General Motors | GMD Advanced Systems Integration Intern **5/2024 – 8/2024** | 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 3 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 4% 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 32 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.
- Supervise workshop open hours, providing assistance for students in machine design, manufacturing, and project management.

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 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.

Autonomous "Cube Craze" Competition Robot **Circuit Design, Hardware, Embedded Programming**

- Designed and Developed Autonomous Robot as member of a 3-person team to collect cubes in arena during Cube Craze Competition.
- Designed and manufactured robot chassis and arm deployment mechanism; Designed and Built circuits using color sensors, DC motors, and QTI sensors; Developed autonomous control algorithm and programmed ATmega328P microcontroller in C to execute.
- Achieved Semi-final performance in class tournament of 60+ teams and defeated Champion robot designed by ASML Engineers.

SKILLS

Design: CAD (Inventor, Fusion 360, Siemens NX, TC Vis, Alias), Master Modeling, CAM, Altium, DFM, Mold Design, DFAM,
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, HTML, Python, G-Code, LaTex, Microsoft Office, Confluence