

TYLER WISNIEWSKI

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EDUCATION

Cornell University | M.Eng. Mechanical Engineering, Concentration in Mechatronics

Expected May 2026

Cornell University | B.S. Mechanical Engineering

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 Synthesis | Teaching Assistant

1/2024 - 5/2024 | 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

- 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, Blender, SOLIDWORKS), Master Modeling, CAM, Altium, DFM

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

Soft Skills: Team Player, Bias for Action, Deliver Results, Empathetic Leadership, Adaptable Mindset, Time Management