

William Wendling

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Portfolio: shorturl.at/X2ZuM

EDUCATION

The University of Texas at Austin

May 2027

Bachelor of Science, Mechanical Engineering | Junior

- Major GPA: 3.07/4.00

EXPERIENCE

Ergonomics Lead, UT Longhorn Racing (American Solar Challenge & FSGP Team)

May 2025 – Present

- Leading a team of 3 engineers through the design and manufacturing of human-centric subsystems (seat, steering wheel, pedals), coordinating with other systems and meeting strict deadlines.
- Designed an adjustable pedal box assembly in SolidWorks, applying DfMA principles to optimize geometry for assembly and producing detailed technical drawings with GD&T.
- Overseeing the physical validation and integration of safety-critical components (steering wheel, brake lines), ensuring 100% compliance with FSAE regulations for high-vibration environments.
- Managing iterative design workflows and technical documentation for critical components, utilizing peer reviews to drive material efficiency and maintain project continuity.

Ergonomics Engineer, UT Longhorn Racing

Sep 2024 – May 2025

- Developed a parametric driver master model using anthropometric data (25th-75th percentile), standardizing complex geometry and accelerating vehicle packaging iterations.
- Engineered and manufactured a forged carbon fiber steering wheel, achieving a 35% mass reduction while integrating custom paddle shifters and sensors for improved driver feedback and control.
- Validated structural integrity using ANSYS FEA simulations and physical bench testing to confirm a 2.0 Factor of Safety under 150 lb torsional loads.
- Defended technical trade-offs and design feasibility in formal reviews with industry engineers, ensuring alignment with strict performance and safety requirements.

Mechanical Team Member, UT Vex U

Aug 2023 – May 2024

- Iterated through many prototypes to develop a pneumatic climbing mechanism to elevate the robot chassis, optimizing cylinder count and leverage ratios to guarantee reliability even under depleted air reserves.
- Utilized OnShape CAD models to visualize and iterate on robotic subsystems for competition, utilizing rapid 3D printing prototyping to validate fitment and motion ranges.
- Optimized the robot's packaging and center of gravity to improve stability during high-speed manipulation.
- Collaborated with a multidisciplinary team to manufacture and assemble a finalized product for competition.

SKILLS

Software: SolidWorks (Advanced), OnShape (Basic), ANSYS (FEA), MATLAB, Microsoft Office

Engineering: Mechanism Design, Actuation Systems, GD&T, DfMA, Structural Analysis, Human-Centric

Fabrication: Manual Machining (Mill/Lathe), 3D Printing, Carbon Fiber Composites, Workshop Operations

Professional: Project Management, Technical Leadership and Presentation, Interdisciplinary Collaboration, Attention to Detail, Organizational Skills

AWARDS

- Excellence Award, VEX U AI World Championship *May 2024*
- Skills Award, VEX Robotics Texas State Championship *Feb 2022*
- Design Award, VEX Robotics World Championship *May 2017*