

Ryan Blanken

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Education

University of Missouri- Columbia

B.S. Mechanical Engineering, Aerospace
Engineering Minor

Coursework

Machine Element Design, Computational
Methods, Thermodynamics, Fluid Dynamics,
MATLAB, Circuits, Aerodynamics

GPA 3.91/4.0

Experience

Mizzou Racing- Formula SAE

August 2023 - Present

Chief Mechanical Engineer

- Led the mechanical division of the team, managing subteam leads and coordinating alignment on vehicle performance goals
- Directed full lifecycle development of mechanical systems by setting project timelines, distributing responsibilities to subteam leaders, and conducting structured design reviews to ensure quality
- Mentored and coached subteam leads and junior engineers, strengthening team capability in CAD, FEA, documentation standards, and engineering decision-making

Honeywell Aerospace- KCNSC

June 2026 - Present

Mechanical Engineering Intern

- Independently led the design of a custom dimensional and alignment verification test jig, including concept development, CAD modeling, FEA validation, mechanism design, GD&T, and design for manufacturability and usability
- Collaborated with internal engineers and external manufacturers to refine design intent and transition to production
- Oversaw supplier work through on-site visits, advising process adjustments based on engineering analysis
- Reverse engineered obsolete components to support continued operation of national assets essential to U.S. national security

Ultradyne USA

January 2026 - June 2026

Mechanical Engineering Intern

- Created custom machining fixtures for aluminum firearm buttstocks, considering clamping strategy, tool clearance, tolerance stack-up, and repeatability
- Designed and manufactured a quality control jig to measure muzzle attachment concentricity, improving inspection accuracy and reducing measurement variability

Projects

Vehicle Dynamics Validation System

Formula SAE

- Designed mounts and integrated linear potentiometers to dampers, ensuring accurate motion capture for vehicle dynamics testing and data correlation through gyroscope and live telemetry
- Developed MATLAB script incorporating spring rates, nonlinear motion ratios, and displacement data to calculate downforce, lift and drag coefficients
- Validated CFD and simulation results with track data, proving aerodynamic loads through suspension compression and vehicle response
- Applied results to tune spring rates, damper settings, and aero balance design, improving handling balance and increasing maximum cornering performance by approximately 0.5 G's of constant lateral acceleration

Aerodynamic Package

Formula SAE

- Designed and developed a complete aerodynamic package to maximize downforce/drag ratio across competition relevant conditions
- Performed simulations in Star CCM+ using Reynolds-Averaged Navier–Stokes (RANS) modeling to validate performance metrics and guide iterative design
- Applied Shear Stress Transport (SST) k-omega turbulence modeling to predict boundary layer separation and turbulent flow behavior critical to high-lift aerodynamic surfaces

Skills

Software: Siemens Star-CCM+ / Ansys Fluent / SolidWorks / Creo / AutoCAD / MATLAB / Microsoft Office

Machinery: Mill / Lathe / 3D Printer / Water Jet / TIG Welder