

Jaden Crocker

605-880-7942 | jlc_crocker@hotmail.com | jadencrocker.com | [LinkedIn](#) | St. Louis, MO

EDUCATION

Washington University in St. Louis

M.S. Aerospace Engineering, **GPA: 4.0/4.0**

B.S. Mechanical Engineering, **GPA: 3.8/4.0**

St. Louis, MO

Expected – May 2027

May 2026

Creighton University

B.S. Applied Physics; minor in Mathematics, **GPA: 3.83/4.0**

Omaha, NE

May 2026

Notable Coursework: Computational Fluid Dynamics, Fluid Dynamics, Aircraft Design, Aircraft Performance, Mechanical Behavior of Composites

ENGINEERING EXPERIENCE

FSAE WashU Racing

Washington University in St. Louis, St. Louis, MO

Chief Engineer & Driver Coach

May 2026 – Present

- Set vehicle-level performance goals each season by analyzing prior competition results and vehicle data, identifying suspension and powertrain inconsistencies as the primary drivers of the team's performance degradation
- Direct race strategy for each dynamic event and brief engineers and drivers; as lead driver and driver coach, select and train drivers and complete the team's highest-risk data collection drives
- Manage the technical build, integration, and testing of the vehicle's six systems: aerodynamics, suspension, chassis, electronics & data acquisition, ergonomics, and powertrain, across a **60+ member** team
- Own creation, scheduling, and execution of the team's full testing plan spanning all vehicle systems through the build and competition season
- Leading two vehicle performance initiatives targeting **March 2027** completion: the team's first **5-dimensional aerodynamic map**, benchmarking the aero package's performance and sensitivities, and a real-time fuel consumption calculator and predictive model integrated into live telemetry

Aerodynamics & Composites Lead

May 2025 – May 2026

- Set vehicle-level aerodynamic targets ($C_L = -3.2$, $C_D = 1.3$, $CoP = 40-45\%$ **Front**) using OptimumG lap-time simulation, translating full-vehicle performance goals into system-level engineering requirements
- Directed the Aerodynamics and Composites sub-team's design, validation, and manufacturing strategy for the car's aerodynamic package, producing engineering documentation for design justification, manufacturing planning, and cross-generation knowledge transfer
- Validated ANSYS Fluent CFD predictions (C_L , C_D , CoP , and pitch/roll operating envelopes) against wind-tunnel and on-track data to **within 10%**, closing the loop between simulation and real-world vehicle performance
- Led a full redesign of the aerodynamic package's mounting system, cutting mass $\sim 7\%$ below target, reducing mean service time, and improving technician access to critical areas
- Defended the aerodynamic package to industry design judges, earning **13/15 (highest aero score in team history)**; the car scored a perfect 100/100 in design and placed **25th** of 131 teams, the team's best-ever finish

Bergstrom Inc.

June 2026 – August 2026

CFD Engineer Intern

Rockford, IL

- Pioneered an automated CFD optimization workflow (ANSYS Discovery, OptiSLang), cutting design iteration lead time from 1–2 weeks to 3–4 hours; authored its user manual for company-wide adoption
- Applied the workflow to a blower-fan HVAC unit and a 10-outlet air duct, improving evaporator face-velocity uniformity from **65% to 91%** and cutting flow imbalance from **52% to 6%**; both designs adopted

PROFESSIONAL EXPERIENCE

Crocker's Collision Center

May 2013 – August 2023; Seasonal

Autobody Technician

Watertown, SD

- Diagnosed complex structural failure modes in collision-damaged vehicles, executing start-to-finish repairs involving high-precision fabrication, bodywork, welding, and refinishing
- Managed full-scale project life cycles by coordinating with coworkers and executives on part requisitions and ensuring strict adherence to delivery timelines

TECHNICAL SKILLS

Design & Modeling: SOLIDWORKS, Autodesk Fusion 360, Rhino3D, ANSYS DesignModeler, SpaceClaim

Simulation & Optimization: ANSYS Fluent (CFD), ANSYS Discovery, ANSYS OptiSLang, RaceStudio3, ANSYS Workbench, ANSYS Enight, Simulink, Vehicle Dynamics, Lap Time Simulation (OptimumG), Mold Design

Programming & Computation: MATLAB, Python, LaTeX, Microsoft Office Suite

Fabrication: Welding (MIG), 3D Printing, Precision Metal Fabrication, Composite Manufacturing

HONORS AND RECOGNITION

Boeing Engineering Scholar: Selected for elite mentorship based on academic success and demonstrated technical leadership within the WashU Racing Team