

Samuel Wheeler

Chester, Virginia

(804) 510-6155

samwheeler557@gmail.com

www.linkedin.com/in/samuelwheeler3

EDUCATION

B.S. in Mechanical Engineering

Expected Graduation Spring 2028

Virginia Tech, Blacksburg, VA, GPA 3.45

Skills: CAD (Siemens NX, Creo, SolidWorks, Fusion), ANSYS (Fluent, Mechanical), MATLAB, Python, Arduino, Microsoft 365

ENGINEERING EXPERIENCE

Amsted Rail, *Engineering Intern*, Granite City, IL

June 2026 - August 2026

Supported rail research engineering projects through system design and structural FEA

- Performed transient ANSYS Fluent simulations to optimize damper orifice sizing and evaluate cavitation and flow performance
- Performed static structural and modal FEA on railcar components in ANSYS Mechanical, evaluating load-case compliance and fatigue life using Goodman criteria
- Designed a lateral loading fixture in Creo to transfer 35-kip hydraulic actuator loads to a railcar bolster during fatigue testing
- Developed a Python application to automate technical report generation, reducing repetitive manual tasks by ~60%

MachWorks at Virginia Tech, *Propulsion and Test Stand Subteam Engineer*

January 2026 - Present

Designed and validated a modular support table to accommodate multiple test stands during simultaneous engine tests

- Modeled table frame and mounting layout in Autodesk Fusion 360 to maximize usable area within standard doorway constraints
- Performed deflection and shear flow calculations in MATLAB to ensure integrity before validating in ANSYS Mechanical, achieving a maximum deflection of 0.148 mm
- Authored table design section of design review, covering requirements, design, CAD models, structural analysis, and results

Virginia Tech Center for Vehicle Systems and Safety, *Lab Intern*

September 2025 - Present

Optimized a freestanding, in-line high-speed imaging system for detection of train undercarriage and wheelset damage

- Designed a clamp mechanism to secure the device, preventing translation and image distortion
- Reconfigured an Arduino sensing circuit to detect passing trains and support automated system triggering

PERSONAL PROJECT

Wraith, *Project Lead, Propulsion*

June 2026 - Present

Lead the design and development of a fixed-wing UAV focused on flight performance and enhanced maneuverability

- Design an inlet in Siemens NX and conduct ANSYS Fluent analyses to evaluate inlet geometries and improve pressure recovery and flow uniformity
- Designed and fabricating a linear rail thrust test stand in Siemens NX and validated structural performance using ANSYS Mechanical
- Integrated test sensors and motor control hardware with Arduino and wrote a Python logging script for live data visualization during thrust testing
- Develop a freestream test setup and testing procedure to evaluate inlet performance across varying angles of attack, using CFD to ensure even flow distribution

EXTRACURRICULAR ACTIVITIES AND AWARDS

Student Engineers' Council at Virginia Tech

Director of Philanthropy

March 2026 - Present

- Lead year-round funding cycles by evaluating applications, facilitating allocation meetings, and overseeing reimbursement of more than \$300,000 to Virginia Tech engineering design teams and organizations
- Serve as the primary point of contact for 103 funded engineering organizations by managing communications, addressing funding questions, and holding semiweekly office hours
- Support coordination of Virginia Tech Engineering Expo by establishing connections between companies and design teams

First Year Experience Committee Member

April 2025 - March 2026

- Planned social events to introduce First Year Engineering students to their peers and the Virginia Tech community

Relay for Life at Virginia Tech, *Mission and Luminaria Committee Member*

January 2026 - Present

- Supported coordination of the Relay for Life Big Event at Virginia Tech, including luminarias and fundraising initiatives throughout the year, personally raising over \$1,100 for the American Cancer Society

Awards

- Modine and Virginia Tech University Hackathon, Overall Competition Winner (2026)
- University of Virginia HooHacks Hackathon, Sustainability Track Winner (2025)