

Silas Askew

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EDUCATION

Colorado School of Mines
Bachelor of Science, Mechanical Engineering

Golden, CO
Expected May 2028
GPA 3.3/4.0
Houston, TX
Aug 2024 – May 2025
GPA 3.6/4.0

University of Houston
Mechanical Engineering Coursework

PROFESSIONAL EXPERIENCE

Texas A&M
Undergraduate Engineering Intern

College Station, TX
May 2025 – Aug 2025

- Executed ground-up redesign of experimental rover's steer-and-drive module, enclosing the geartrain for improved durability and dust protection while meeting strict weight and cost constraints.
- Designed a lightweight sheet metal electronics enclosure to house and organize all rover components, providing structured wire routing and internal mounting for power and control systems.
- Created a custom, 3D-printable, shroud for the Neo Vortex motor.
- Designed a fully 3D-printable prototype cycloidal gearbox
- Developed Python based control algorithms for ODrive: Position PID, Velocity PID, Trapezoidal profiles.
- Implemented logging tools for control loop performance evaluation and tuning.

NASA Johnson Space Center

Houston, TX

ER4 Robotics Intern

May 2024 – Aug 2024

- Collaborated on the design of a wheel wear testbed for the MiniChariot robot, including a suspension and power interface
- Integrated a slip ring to enable continuous power delivery for indefinite testing.
- Evaluated performance and durability of series elastic spring for experimental vehicle by recording deflection data and analyzing spring rate degradation over repeated loading cycles.

LEADERSHIP AND INVOLVEMENT

FIRST Robotics Competition

Houston, TX

Subsystem and Operations Lead

Aug 2020 – May 2024

- Led technical and strategic efforts on a globally ranked high school robotics team, contributing to an 80%+ match win rate over two competitive seasons.
- Directed subsystem teams through iterative design and development phases under six-week build constraints.
- Served as drive team operator and field strategist, coordinating real-time match execution and inter-team collaboration.
- Supported award-winning outreach and impact initiatives, including 200+ hours of mentoring and STEM engagement.
- Contributed to the team earning multiple state-level wins and a finalist placement in the FIRST Championship Impact Award.

UH ASME Print Lab

Houston, Texas

Design Team Lead

Aug 2024 – May 2025

- Led 3D printing design teams delivering products to Chevron and ConocoPhillips.
- Delivered client-driven solutions under short manufacturing timelines using SolidWorks.
- Coordinated with UH STEM Center stakeholders to iterate and finalize deliverables.

RELEVANT SKILLS

- Mechanical: CAD (6yrs, SolidWorks, Creo Parametric, Onshape), 3D Printing (FDM, SLS), Sheet Metal Design, DFM, Static Simulation, Engineering Drawings, GD&T, Mechanism Design, CAD Assembly Management, Tolerance Stack-up Analysis
- Electrical: Wire Harnessing, Connector Integration, Sensor Integration (Encoders, IMUs), CAN Bus, Power Distribution, Cable Management, Reading Schematics, PCB Soldering
- Software: Python, ODrive SDK, PID Control, Trapezoidal Motion, Git, Basic Linux CLI, Data Logging, Multithreading (Python), Command Line Tools, Version Control (Git/GitHub)
- Leadership & Communication: Team Leadership, Project Management, Technical Mentoring, Cross-functional
- Collaboration, Public Speaking, Technical Documentation, Client Communication, STEM Outreach, Competitive Strategy