

Silas Askew

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EDUCATION

Colorado School of Mines: GPA 3.12/4.0

Bachelor of Science, Mechanical Engineering

Golden, CO

Expected May 2028

PROFESSIONAL EXPERIENCE

Persona AI

Mechanical Engineering Intern

Houston, TX

Incoming Spring 2027

NASA Johnson Space Center

ER4 University Robotics Intern

Houston, TX

May 2026 – Aug 2026

- Led an intern team performing diagnostics, repair, and maintenance on SEV rover steering and transmission hardware, including repair of 3 failed transmission modules and replacement of 6 steering bowls.
- Developed steering and transmission disassembly/reassembly documentation to improve maintenance repeatability, training, and future service work.
- Designed a robotic leg and high-torque dual-cycloidal joint actuator, balancing structural mass, packaging, range of motion, drivetrain loading, and manufacturability.
- Finalized the robotic leg and actuator design for manufacturing and supported design reviews for a separate prototype lunar EVA mobility vehicle.

Texas A&M

Undergraduate Engineering Intern

College Station, TX

May 2025 – Aug 2025

- Redesigned experimental rover steer-and-drive module, enclosing the geartrain to improve durability, dust protection, and serviceability, under time, weight and cost constraints.
- Designed lightweight sheet-metal electronics enclosure with structured wire routing and internal mounting for rover power, control, and computing systems.
- 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

ER4 Robotics Intern

Houston, TX

May 2024 – Aug 2024

- Supported MiniChariot wheel-wear testbed design, including suspension interface, power delivery, and slip-ring integration for continuous testing.
- Evaluated performance and durability of series elastic springs for experimental vehicle by recording deflection data and analyzing spring rate degradation over repeated loading cycles.

LEADERSHIP AND INVOLVEMENT

FIRST Robotics Competition

Subsystem and Operations Lead

Houston, TX

Aug 2020– May 2024

- Designed and integrated major competition robot mechanisms, including arm, shooter pitch, turret/gamepiece pathing, and packaging-constrained subsystems.
- Led subsystem teams through rapid CAD, prototyping, manufacturing, and integration cycles under six-week build constraints.
- Served as drive team operator and field strategist, helping achieve a >80% match win rate across multiple seasons and multiple state-level wins.

RELEVANT SKILLS

- Mechanical: SolidWorks, Creo Parametric, Onshape, mechanism design, sheet metal design, DFM, engineering drawings, GD&T, tolerance stack-up analysis, static simulation, 3D printing,
- Electrical: Wire harnessing, CAN bus, connector integration, sensor integration, power distribution, cable management, schematic reading, PCB soldering
- Software & Controls: Python, ODrive SDK, PID control, trapezoidal motion profiles, data logging, Git/GitHub, Linux CLI, multithreading
- Leadership & Communication: Team leadership, technical mentoring, project coordination, technical documentation, client communication, public speaking, competitive robotics strategy