

Ari Scheuer

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Education

B.S. Mechanical Engineering | Milwaukee School of Engineering | Graduating May 2028

Internship Experience

Advanced Automation Engineering Intern | Komatsu Mining | June 2026 - present

Project Objective:

- Design, manufacture, and program a 1/5th-scale 7-DOF mockup robotic track-drill arm for forward-kinematics testing, sensor qualification, and training.

Project Results:

- Built and programmed the mockup arm using 3D-printed components driven by linear actuators and servo motors, controlled via LabVIEW on a cRIO RT/FPGA target. The control panel supports manual operation and programmed motion sequences, using rotary and incremental encoder feedback to calculate real-time drill bit position in 3D space.

Embedded Systems Design Associate | CT Cubed Inc | May – August 2025

Project Objective:

- Design and manufacture a mobile demonstration case showcasing cyberattack effects on autonomous drone systems.
- Built a modified travel case with 3D-printed components to simplify replication and reduce manufacturing costs..

Project Results:

- Integrated core autonomous drone systems (BLDC motors, LiDAR, CV cameras, environmental sensors)
- Developed a Python GUI to display live sensor data and a C++ backend to control hardware and electrical systems; engineered the case for durability, reliability, and cost efficiency.

Leadership & Project Experience

Two stage Rocket Team Project Manager | MSOE High Powered Rocket Club | Sep 2025 – Present | 10hr/week

Project Objective:

- Design, develop, and construct a two-stage high-powered rocket for the 2026 Argonia Cup Competition.
- Validate system designs on a half-scale testbed rocket; ensure successful staging, ignition, and safe dual-deployment recovery.

Project Results:

- Led system integration across structural, avionics, and payload subteams to ensure full functionality.
- Performed aerodynamic and physics simulations in MATLAB and OpenRocket to validate the rocket's stability and flight performance.
- Validated staging, ignition, and recovery on a half-scale testbed; launched to 3,003 ft AGL and recovered safely.
- Optimized motor selection by modeling the competition scoring equation in MATLAB and Excel, then validated candidate motor pairs in OpenRocket to identify the highest-scoring configuration.
- Staged, ignited, and recovered from an altitude of 14,000 ft AGL, placing 6th out of 21 teams at the 2026 Argonia Rocket Cup.

Autonomous Self-Driving 1972 Citicar | Personal Project | March 2025 – Present

Project Objective:

- Restore the chassis, body, and mechanical systems while updating and modernizing the powertrain and electronics.
- Upgrade the power system and modernize the electronics to enable autonomous driving and control.

Project Results (ongoing):

- Restored the original 3.5 hp 48V motor and paired it with a Curtis 1205M motor controller.
- Built a new 48V battery pack from two Tesla Model S modules, achieving an estimated 50-mile range.
- Reverse-engineered the Curtis motor controller's RS232 serial telemetry protocol, enabling a microcontroller to read live telemetry and translate it into CANopen frames for integration onto the car's CAN bus.

Technical Skills

Hardware Skills: SolidWorks, Fusion360, OnShape, CNC programming, 3D printing, Electronics, Circuits

Software Skills: MATLAB, Simulink, LabVIEW, Python, C++, Mechatronics, Embedded systems, MS Office, Excel