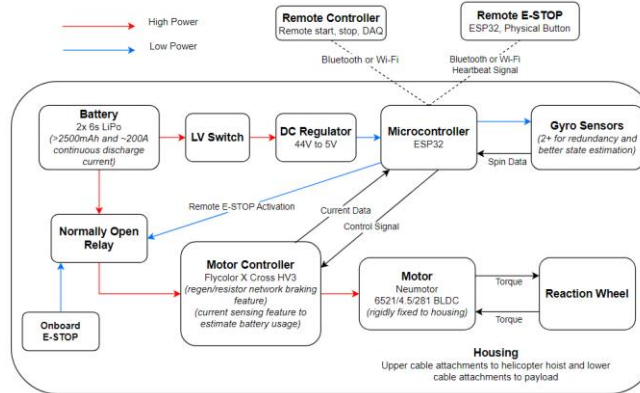
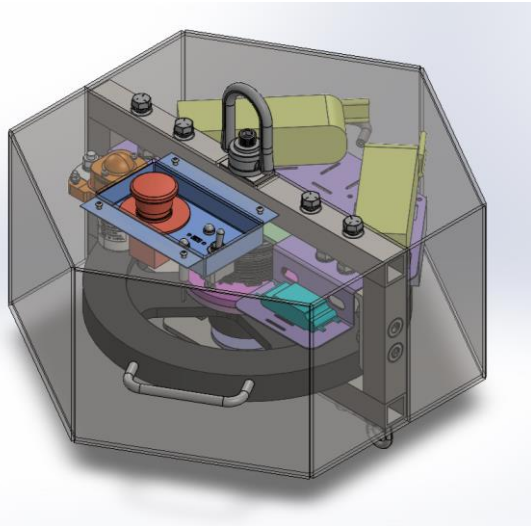
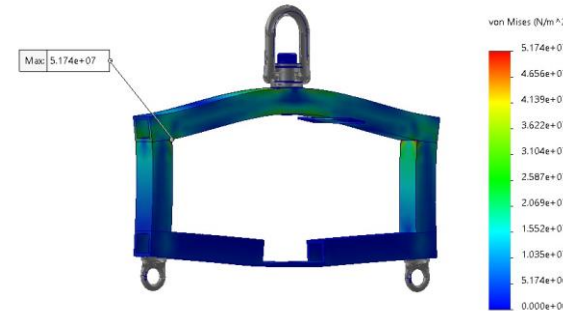


SpinStop | Helicopter Rescue Spin Stabilization System ([Video](#))

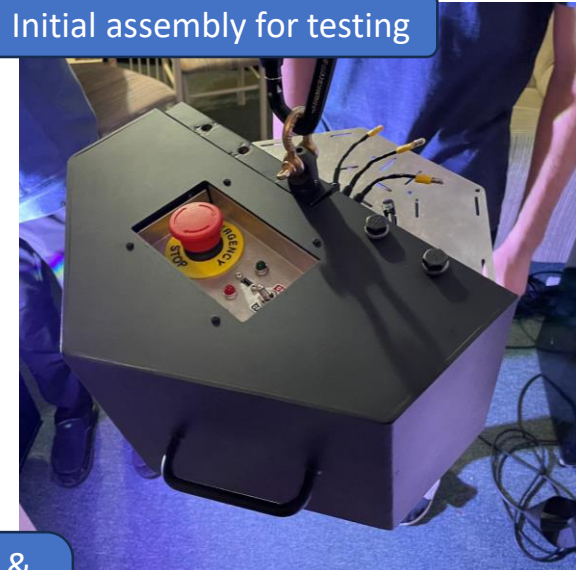
Created a reaction wheel based stabilization system for hoisted payloads as part of my 4th year design project



System modelling & simulation



Initial assembly for testing



Remote e-stop



Burst containment housing

Machining & fitting press-fit plate



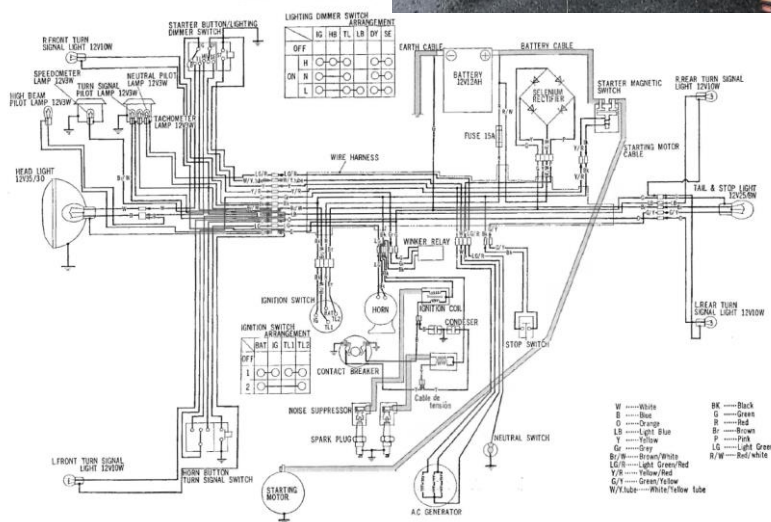
Motorcycle Rebuild

Rebuilt a 1973 Honda motorcycle: full teardown, repair, harness rebuild, missing component fabrication



Wiring diagram for harness rebuild

WIRING DIAGRAM (For



Teardown to frame

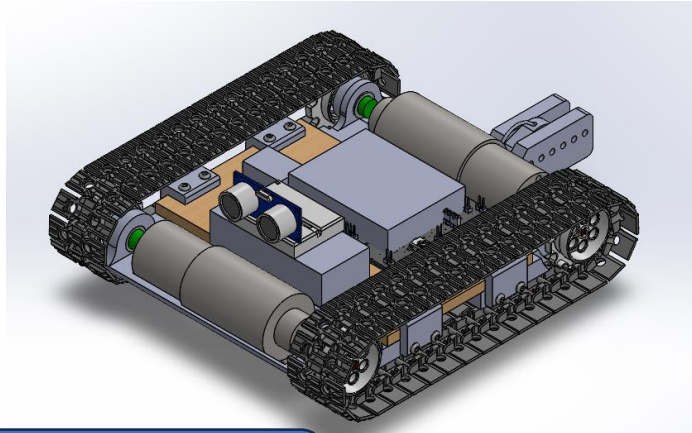


Seized piston removal with piston jack jig

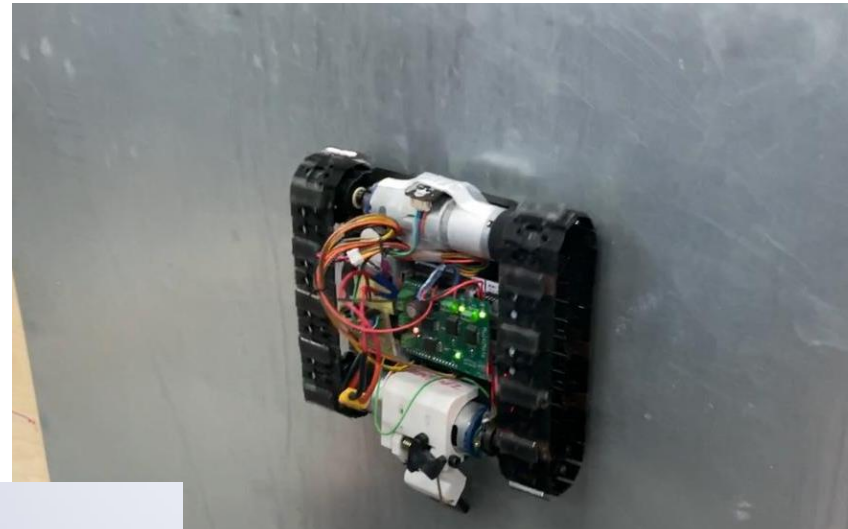
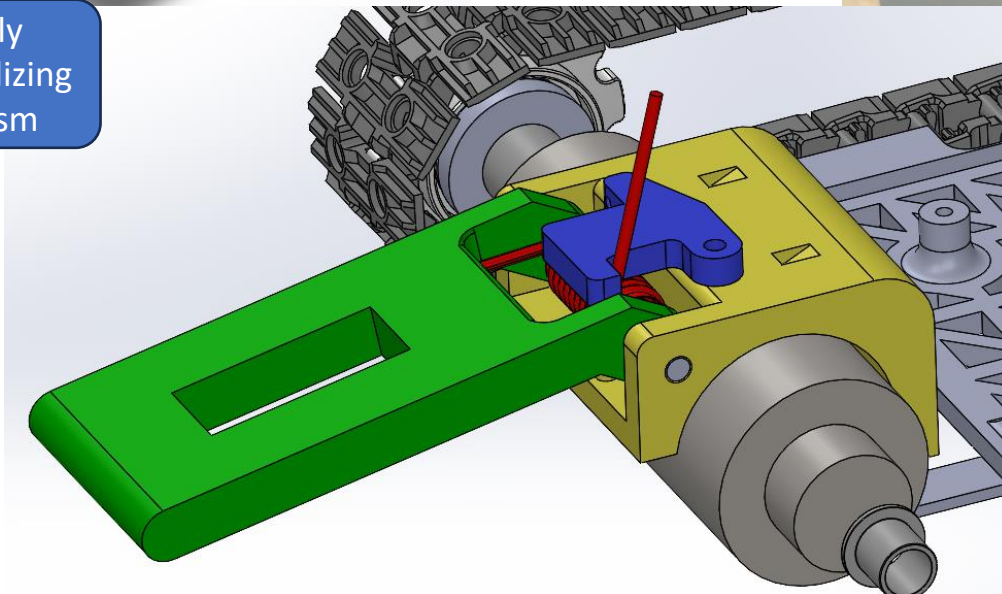


Wall Climbing Robot

Built an autonomous rover-style wall climbing robot



Mechanically
triggered stabilizing
tail mechanism



Successful
autonomous circuit
and wall traversal

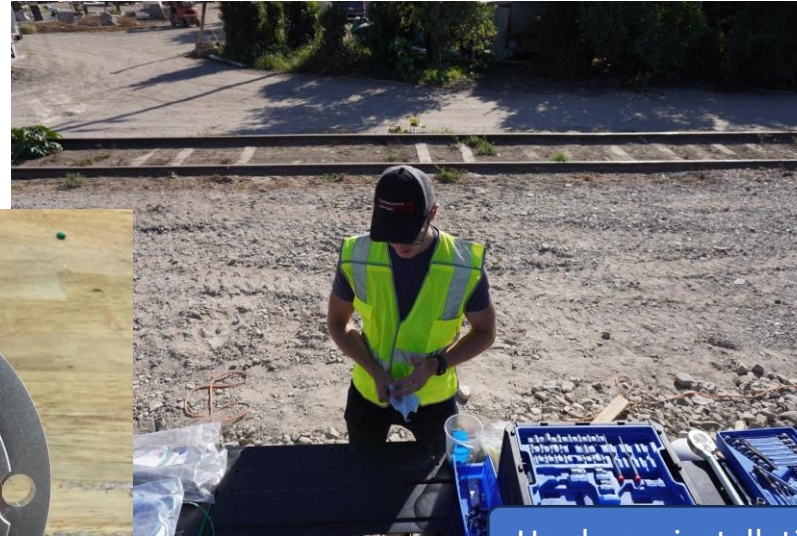
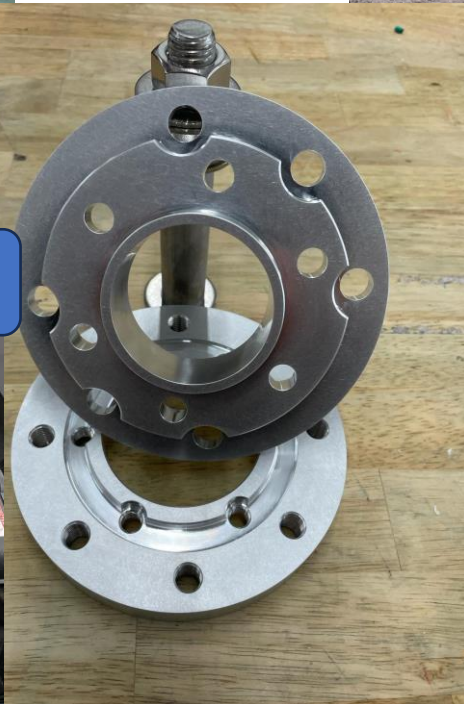


Parallel Systems | Autonomous Train Hardware

Lead the design of an axle dynamometer, developed a custom bearing design workflow, prototyped a hydraulic parking brake system



Axle dyno housing, torque sensor, thermal/hydraulic loop

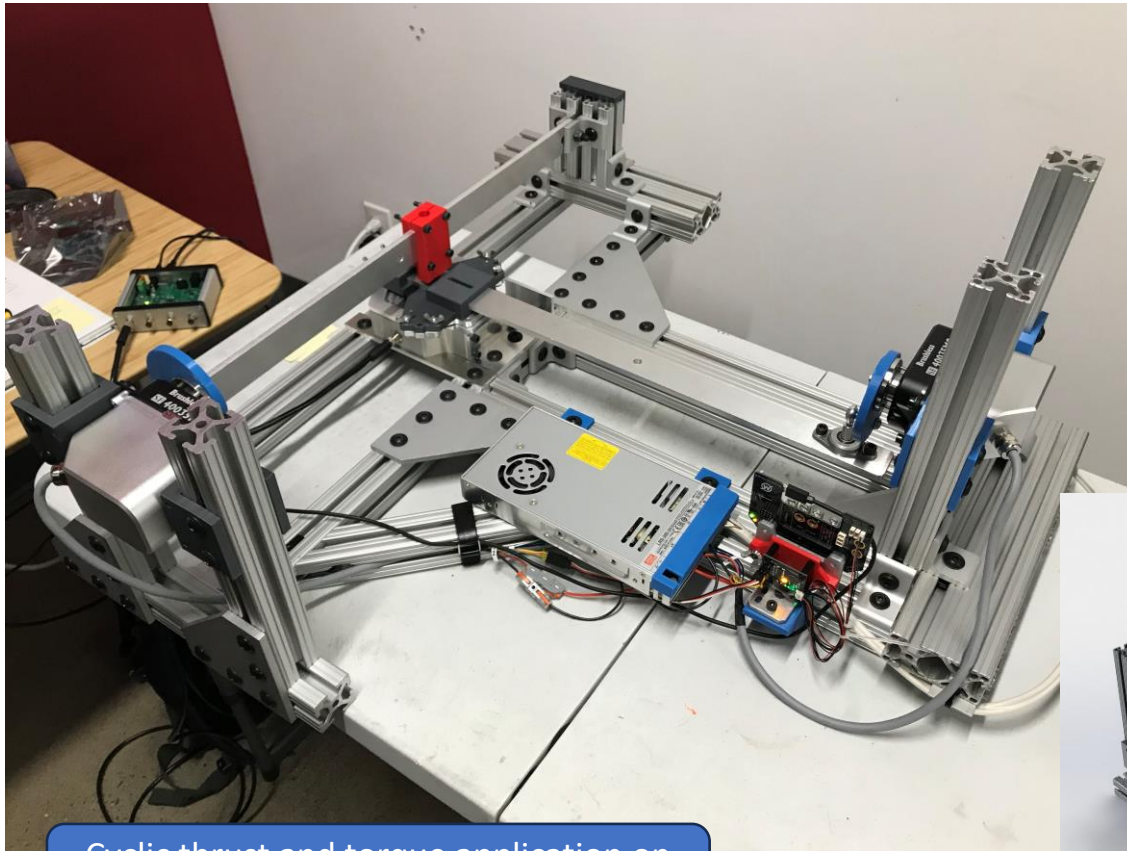


Hardware installation & testing



Tyto Robotics | Fatigue Testing Machine

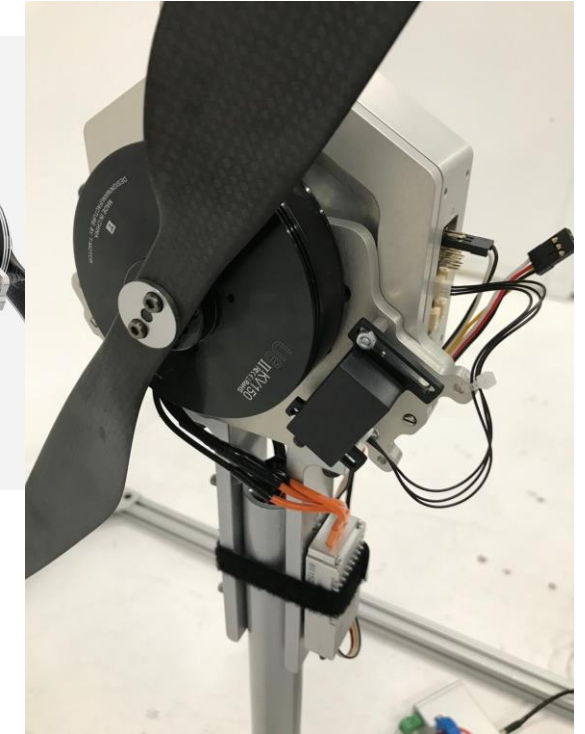
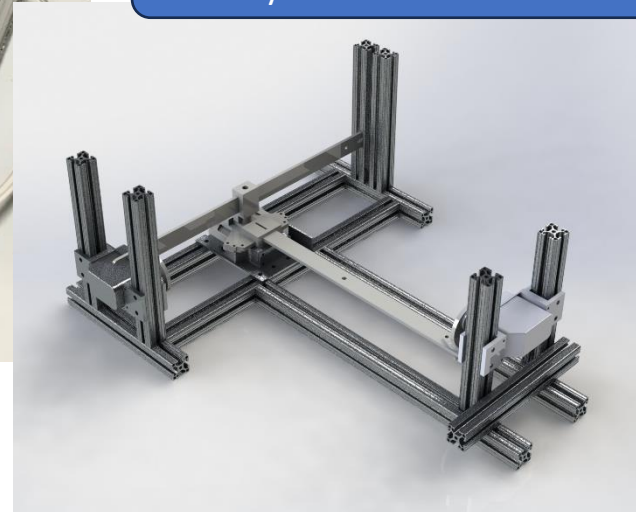
Created a custom fatigue testing machine for drone powertrain benchmarking equipment



Cyclic thrust and torque application on drone testing device



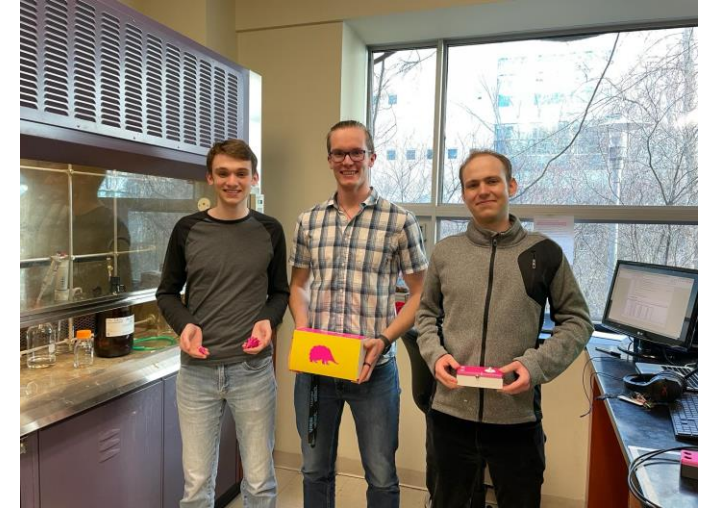
Improved powertrain mounting and hysteresis characterization



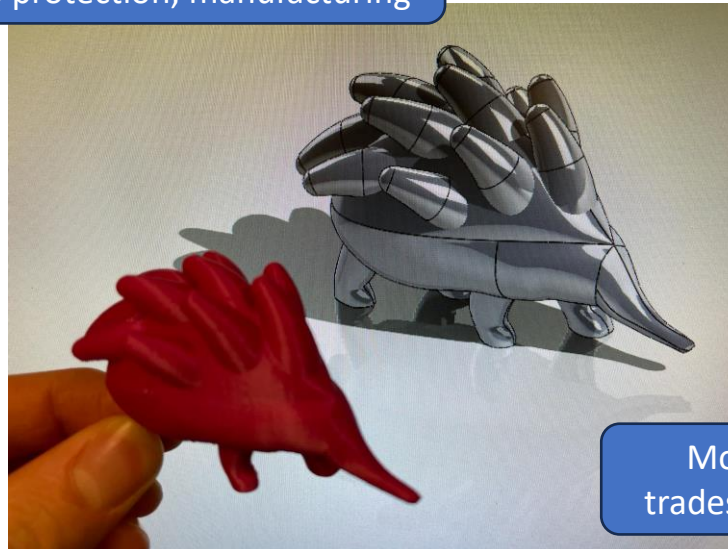
Drone powertrain benchmarking with testing device

Ekidna | Product Design

Performed mechanical product design of a novel consumer electronic device and improved injection molded component design



Device designed for ease of use, solvent resistance, drop protection, manufacturing



Modeled mascot for tradeshow and media use



Raufoss Neuman | Automotive Factory Line Expansion

Designed tools and fixtures for an automotive control arm manufacturing line addition



Bushing tracks & sensor mounts

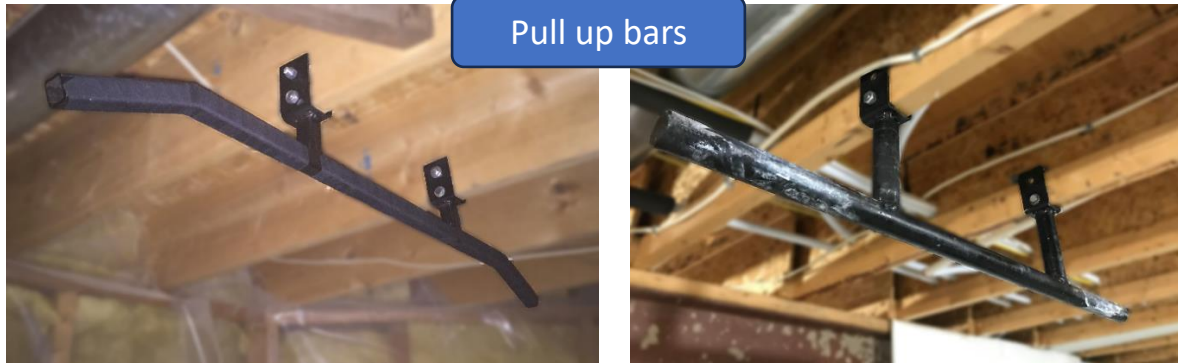


Chemical tank access hardware & robotic arm grippers



Metalworking, Woodworking, Landscaping

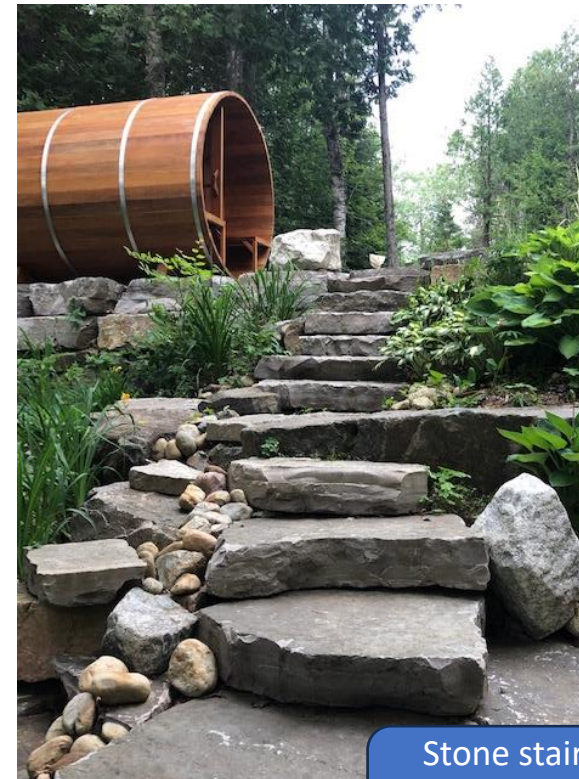
Undertaking various projects in my free time to hone my welding, machining, woodworking, and heavy machinery skills



Pull up bars



Barbell jack



Coffee table



Stone stairway construction with 5-ton excavator