SAMUEL ROBERGE-ARNOTT

A Ottawa, Canada
T (613) 618-9713
E samuel10jra@gmail.com
W LinkedIn

SKILLS

- SolidWorks (CSWA certification)
- Fusion 360
- AutoCAD
- GD&T, tolerance stack-up analysis
- Altium Designer
- Soldering & PCB debugging
- Heavy machinery (200+ hrs)
- Metalworking & woodworking
- 3D printing
- Comsol
- C/C++, Python & MATLAB
- HTML, CSS

WORK EXPERIENCE

Mechanical/Mechatronics Engineer – Parallel Systems **Oct – Dec 2022**

- Developed a failsafe hydraulic parking brake system capable of holding a 170,000-lb rail vehicle on a 3% grade
- Designed a modular HiPot testing system to ensure proper pin-out and insulation resistance for over 70 unique wire harnesses (some having upwards of 50 pins) eliminating the #1 cause of vehicle bring up issues
- Implemented a high-precision, high-speed torque sensor system on a 250kW electric motor dyno resulting in high confidence powertrain loss characterization

Mechanical Design & Production Engineer – Ekidna Sensing **Jan – Apr 2022**

- Improved custom plastic injection moulded part design while preserving efficient manufacturability
- Launched a revolutionary cannabinoid testing device that integrated aesthetics, marketing, and engineering requirements while managing design revisions, manufacturing lots, BOMs, SOPs, production batches, etc.

Mechanical Design Engineer – Tyto Robotics **May – Aug 2021**

- Created a servo operated fatigue testing machine successfully characterizing high precision equipment
- Provided critical design changes to custom testing equipment for improved safety and useability
- Devised and conducted testing for multi-thousand-dollar brushless motor and propeller test stands resulting in a 70% increase in thrust and torque measurement accuracy

Hardware Technician, Test Engineering – Sanmina **Sep – Dec 2020**

- Provided repair and rework instructions for manufacturing defects of cutting-edge high-speed modem cards in coherent optical modems in a high-tech controlled manufacturing environment
- Analyzed errors and tested optical/electrical components using advanced diagnosis equipment
- Interpreted electrical schematics to debug complex modem cards using standardized approaches

Engineering Assistant – Raufoss Neuman Aluminum **Jan – Mar 2020**

- Designed and sourced custom metal components and installations for automated factory process improvements in a high-volume automotive manufacturing environment
- Implemented noise-cancelling fire-retardant industrial curtains for a complex 140-linear-foot installation
- Managed fabrication contracts for goods and services from large and small suppliers

ADDITIONAL PROJECTS

- Developed a hyperloop braking test rig data acquisition system by implementing a shaft encoder & Arduino and conducted R&D for linear induction motor design (Waterloop Design Team)
- Created a 60-foot outdoor stone staircase using heavy machinery for 30 steps of 200-300 lb stones
- Designed and built multiple metal pull-up bars, pine table, wooden squat rack, and other gym equipment