Kyle Tam

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SKILLS

Programs: Solidworks, AutoCAD, Microsoft Office Suite, LabVIEW
Machining: Bandsaw, Drill Press, Lathe, Milling Machine, Laser Cutter, 3-D Printer
Tools: Arduino, oscilloscopes, signal generators, multimeters, soldering irons

EXPERIENCE

Waterloo Rocketry *September 2018 – Present*

Payload Team Member/Project Lead

- Designed and **manufactured** an experiment that assessed the properties of **3D printed** parts with varying infills and materials under steel and aluminum loads during the flight of our 17-foot rocket that achieved an altitude of 15,568 feet
- Drafted the CubeSat side plate and braces using **GD&T** and **ordinate dimensioning**
- Leading research and development of the payload experiment and CubeSat that will be flown aboard the rocket at the ESRA 2020 Intercollegiate Rocket Engineering Competition

Data Acquisition Team Member

- Collaborated with the data acquisition team to interpret flow rates acquired during static and cold flow test firings of the engine using a custom National Instrument **LabVIEW** program
- Conducted **research** into op-amps, power supplies and noise filtering to determine the reason behind excessive noise and a loss of load cell data exceeding measurements of 90 LB

Recovery Team Mechanical Designer

- Designed and manufactured electronics sled and bulkhead using **Solidworks** to create a recovery avionics section within the nosecone that used 16% less space than previously

Eleven-X *May 2019 – August 2019*

IoT Device Technician Co-op – Research and Development Team

- Conducted analysis of IoT sensors and devices to gather data on LoRaWAN network strength, battery life and measurement accuracy for smart-home and commercial applications
- Documented research and findings in reports and the project wiki for future reference

PROJECTS

Canadian Reduced Gravity Experiment Design Challenge *September 2018 – July 2019*

- Collaborated with a team of 8 students and the National Research Council to test an experiment aboard a Falcon 20 that characterized the physics of ferrofluids and mixed solutions under the influence of a magnetic field in simulated microgravity
- Designed and constructed the back plate, base bracket and phone mount using **Solidworks** and machine shop tools under a budget of $300 and a strict timeline of two weeks
- Documented research and testing of a solenoid-powered fluid system controlled by an **Arduino** and H-bridge for potential applications in the space industry

EDUCATION

University of Waterloo September 2018 – April 2023

BASc in Mechatronics Engineering with Physical Sciences Option in Physics