

Kyle Tam

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SKILLS

Highlights: Design for Manufacturing, Research, Prototyping, Fabrication, GD&T, Project Management
Programs: SolidWorks, Solid Edge, ANSYS, MATLAB, Mathcad, KiCad, Microsoft Office
Tools: 3-D Printing, Bandsaw, Drill Press, Milling Machine, Lathe, Arduino, Soldering

EXPERIENCE

Hatch

January 2020 – April 2020

Mechanical Design Intern – Engineered Equipment Group

- Generated concepts for the design and operation of a hydraulic unloader and tethered rover based on client requirements to minimize interruptions during fuel extraction process
- Produced 3D models and drawings in Solid Edge to communicate designs in client deliverables
- Conducted stress analysis and time studies to reduce monthly operation expenditures by \$20,000
- Researched bearings and dampers to produce designs for the supports of a fusion reactor prototype
- Designed and prototyped a refractory impactor that improved the accuracy of ultrasonic testing by 50%
- Communicated with vendors and contractors to produce capital cost estimates for client proposals

eleven-x

May 2019 – August 2019

IoT Hardware Research Intern – R&D Team

- Conducted hardware analysis of IoT sensors to determine viability in commercial applications
- Assembled test jigs to simulate product performance in harsh environmental conditions
- Developed decoders using PHP Laravel to decipher device data for end-user applications

Waterloo Rocketry

September 2018 – Present

Sub-team Lead – Payload

- Leading 15 students in the research and design of a 3U CubeSat and radiation sensor suite that will be flown on the team's hybrid rocket to an altitude of 30,000 ft at the 2021 Spaceport America Cup
- Designing and optimizing an electronics housing using ANSYS FEA to withstand rugged operations
- Developed a 3D-printed materials payload that assessed failure strength during the 2019 competition

Core Member (Payload, Airframe, Data Acquisition, Recovery)

- Designed and drafted bulkheads, electronics sleds and satellite parts using SolidWorks and GD&T
- Conducted research in carbon fibre and fibreglass materials to manufacture composite airframe components that were optimized to decrease weight and reduce drag during transonic flight
- Fabricated and assembled flight hardware on the mill and lathe to tolerances of at least 0.1mm
- Monitored system data and calibrated sensors during cold flows and static test fires of the rocket engine

PROJECTS

Canadian Reduced Gravity Experiment Design Challenge

September 2018 – July 2019

- Collaborated with SEDS Canada and the NRC on an experiment that analyzed the properties of ferromagnetic solutions under the influence of a magnetic field in microgravity
- Documented research and testing in periodic design reports that effectively communicated the development of the experiment setup and a prototype Arduino-actuated solenoid fluid system

EDUCATION

University of Waterloo

September 2018 – April 2023

Candidate for BAsC in Mechatronics Engineering with Physical Sciences Option in Physics