Kyle Tam

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SKILLS

CAD & Design: Proficient in SolidWorks, AutoCAD, Solid Edge, GD&T; Basic experience using ANSYS
Manufacturing: Knowledgeable in DFM/DFA, 3D printing, machining, composite layups, injection molding
Electronics: Experience in Arduino, KiCad, FPGAs, C/C++ programming, soldering
Other Skills: Project management, MATLAB, Mathcad, Microsoft Office

EXPERIENCE

Flash Forest
September 2020 – December 2020

Mechatronics Engineering Intern

- Established a semi-automated manufacturing line to produce seed pods for rapid reforestation
- Developed a drone-mounted seed pod embedder system that increased germination rates by over 50%
- Prototyped 3D-printed and vacuum-formed components to validate seed pod and embedder designs

Hatch
January 2020 – April 2020

Mechanical Engineering Intern – Engineered Equipment Group

- Assisted in the design and operation of a hydraulic unloader and large experimental high-speed bearing system while balancing other projects in a fast-paced consulting environment
- Conducted stress analysis and time studies to reduce monthly operation costs of unloader by $20,000
- Produced 3D models and drawings in Solid Edge to communicate designs in client deliverables
- Communicated with vendors and contractors to produce capital cost estimates for client proposals

Eleven-X
May 2019 – August 2019

Hardware Validation Intern

- Conducted hardware analysis of IoT sensors to determine viability in commercial applications
- Assembled test jigs to simulate product performance and summarized findings in bi-weekly reports

Waterloo Rocketry
September 2018 – Present

Payload Project Lead
August 2019 - Present

- Leading 15 students in the research and design of a radiation-resistant materials experiment that will be flown on the team's 17 ft hybrid rocket to an altitude of 30,000 ft at the 2021 Spaceport America Cup
- Designed a 3U CubeSat structure and internal modules to house and interface the experiment
- Managed finances and communications with external researchers while meeting tight project deadlines

Core Member (Payload, Airframe, Data Acquisition, Recovery)
September 2018 – July 2019

- Designed and drafted bulkheads, electronics enclosures and satellite parts using SolidWorks and GD&T
- Developed and operated the data acquisition system used during hot fire tests of the rocket engine
- Fabricated and assembled flight hardware on the mill and lathe to tolerances of 0.1 mm or less

PROJECTS

Canadian Reduced Gravity Experiment Design Challenge
September 2018 – July 2019

- Collaborated with SEDS Canada and the NRC on an experiment that analyzed the behaviour of ferromagnetic fluids under the influence of a magnetic field in microgravity
- Developed an experimental solenoid pump controlled by an Arduino that assessed the feasibility of non-mechanical fluid actuation for industry applications

EDUCATION

University of Waterloo
September 2018 – April 2023

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