Kelvin Tam

Aerospace Engineering Graduate
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Profile Summary

Engineering graduate with documented experience in aerospace machine learning & computer science research, repair mechanics and customer service. I am constantly striving to build my skills & knowledge in the fields of computer science & aviation technology. I am a highly self-motivated and analytical team player with academic and workforce project leadership experience.

Technical Qualifications

Language Fluency: English, Cantonese
Programming: C, C++, JavaScript, Python, HTML, CSS, Oracle/MySQL, Machine Learning
Software Proficiency: CATIA V5, Matlab/Simulink, Xfoil, XFLR5, ANSYS, Solidworks, Microsoft Suite, LaTeX
Manufacturing: 3D Printing, Laser Cutting, Electronics/PCB Soldering

Education

Computer Programming & Analysis Advanced Diploma | Seneca College 2022

- *Seneca Digital Health Hackathon 2021 - Second Place*

B.Eng | Bachelor of Aerospace Engineering | Ryerson University 2019

- *Ryerson Aerospace Aircraft Design Capstone Competition - 1st Place*
- *CASI Toronto Aircraft Design, Aircraft Stability & Controls Certificate*
- *Ryerson Rocketry Club Engineering Team*

Work Experience

Research Assistant *June 2020 - July 2021*

Ryerson University (Toronto, ON)

- Assisted in the development of an automated 3D printing quality control system for aerospace manufacturing purposes with different printing materials, climate control, infill strength & percentages
- Using Python, JavaScript, Deep Machine Learning Algorithms & multiple visual sensors, a scaled system is created to detect, catalogue manufactured product defects and identify new printing anomalies.
- The created system yielded a 98% detection success rate, increasing the manufacturing process reliability and reducing net waste from defective units & printing material

Bicycle Sales Associate & Repair Mechanic *May 2018 - June 2020*

Switchback Cyclery - Social Enterprise (Toronto, ON)

- Client consultation experience in custom builds & upgrades, with thorough understanding of component level integration, future maintainability & upgradability based on technical guidelines/schematics
- Responsible for developing/presenting (at high level) & completing technical service orders & solutions with component listings in consideration of clients' necessities, safety, budgets, and desired performance level
- Consistent client communication on service order updates & critical findings to provide full service transparency

Bakery Chef & Brand Ambassador (Hershey's Kitchen - 2 month) *November 2019 - January 2020*

Mosaic Sales Solution (Toronto, ON)

- Prepared made-to-order specialty items with a team of 5 while maintaining rigorous quality control in a fast-paced boutique kitchen pop-up
- Reported and maintained daily baked goods inventory, raw material & shop necessities to managing supervisors

Lighting & Visual LX Director *August 2018 - November 2019*

Hillsong Church Toronto (Toronto, ON)

- Led a team of three in stage lighting setup/routing & live hardware operations in various venues across Toronto
- Responsible for developing seasonal stage lighting design elements, LX show files programming, venue hardware route mapping and annual equipment upgrades, cost estimates & budget proposals
- Served as design approval contact, roster/project management and technical training for new systems & guidelines

Supervisor - Barista *May 2016 - December 2017*

Starbucks (Toronto, ON)

- Strengthened the corporate image by providing personalized experiences through Barista services
- Effectively managed store hours by allocating available work hours for employees and boosted daily sales targets

Project Experience

Project Manager, Aerodynamics & Structures, 3D Modeler

Aircraft Design Capstone - Electric Single-Prop Trainer Aircraft (team of 12 members)

- Utilized **CATIA V5** with advanced techniques to produce accurate modeling of aircraft systems with professionally scaled engineering drawings at component & assembly level
- Designed a hybrid airfoil with 30% higher efficiency than similar class in-market products, optimized with **XFLR5** & **ANSYS Computational Fluid Dynamics** and estimated wing capabilities using Boolean Subtraction Method
- Guiding system integration and progress updates/deliverables while being in close liaison with subteams and faculty
- Analyzed wing and fuselage skeleton components' structural integrity, stress allowance and deformation failures, using **ANSYS Finite Element Analysis**, to refine and minimize total aircraft weight while meeting safety constraints

Agricultural Drone Design Project

Technical Involvement - Structural Design & Analysis

- Developed an **Arduino** based agricultural purposed drone sensor package which monitors crop conditions, detects for fresh crop locations and maximum sizing. Compatible with a wide angle camera module package
- Using **CATIA V5**, a drone mountable protective enclosure was produced & 3D printed with specific payload weight & dimensional requirements
- Structural integrity of the payload enclosure was tested using **ANSYS** stress analysis on various impact possibilities & simulation of mission loads before live prototype trials
- Successful implementation of drone sensor package with live usable data feedback under test flight conditions