Austin **Luu**

✉ austinowenluu@gmail.com   🏠 austinluu.me   🎮 austinluu   in austin-luu

Education

Ryerson University | B.ENG IN MECHANICAL ENGINEERING · *Toronto, ON, Canada* | *Sept. 2016 — Apr. 2021*
- GPA: 3.70 | Dean's Honour List
- Awards: Robotics International Society of Manufacturing Engineers Award | Mechanical Eng. First Year Alumni Award

Technical Skills

Design	SolidWorks (CSWA Certified), AutoCAD, Autodesk Inventor, GrabCAD, ANSYS, GMSH, SOFA, FMEA
Manufacturing	FDM 3D Printing, Laser Cutting, Turning, Milling, Drilling, Arc & MIG Welding, Soldering
Programming	MATLAB, C/C++, Python, VBA, JavaScript, Java, LaTeX, Octave, VHDL, Ladder Logic
Misc.	GIT, ENOVIA, Teamcenter PLM, Microsoft Office, CRM, Power BI, Navision, Salesforce, Jira, Figma, Adobe Photoshop

Experience

AlphaPoly Packaging | PROCESS ENGINEER · *Brampton, ON, Canada* | *June 2021 — Oct. 2021*
- Re-developed standard operating procedures for all operational machines forecasting a 65% reduction in operation downtime
- Led product development of acquiring new machine tooling for expanding product variability and sustainable materials development including: compostable, renewable, and post-consumer recycled materials
- Developed end-to-end quality testing across all manufacturing departments reducing June-to-September quality cases by 31%

Celestica | PRODUCT DATA MANAGER · *Toronto, ON, Canada* | *May 2019 — June 2021*
- Initiated and managed Aerospace & Defense value engineering cost saving projects, reducing excess inventory by over 20% and expanding customer AVL portfolio by over 15%, leading to an annual cost savings of $1.5 million
- Managed $5 million in global Aerospace & Defense cross-functional sourcing projects with manufacturing, quality engineering, commodity management, and planning departments to enable material procurement and manufacturing
- Developed VBA macros for: consolidating & analyzing performance metric reports, consolidating & scrubbing customer BOMs for product data management, and neural network predictive analysis of component cost based on description

Ryerson Rams Robotics | MECHANICAL DESIGN CO-LEAD · *Toronto, ON, Canada* | *Sept. 2016 — June 2021*
- Designed and manufactured an autonomous science console for life detection on mars comprised of an auger intake and centrifuge carousel storage utilizing ATP Bioluminescence and Ninhydrin Test protocols
- Piloted development and evaluation of dynamic and static force model simulations in MATLAB for technical enhancements and modifications to existing designs, increasing drive train structural integrity by over 35%
- Redeveloped system architecture of rocker-bogie differential mechanisms using SolidWorks & ANSYS FEA; decreasing weight and moment forces for the URC2019 competition, placing 2nd internationally
- Led an agile team of 15 in designing and developing an autonomous robot capable of expanding 150cm in height, repetitive lifting of 10lb, and omni-directional drive; placing 1st nationally over the 2018 & 2019 VEXU competitions

Ryerson University | RESEARCH ASSISTANT · *Toronto, ON, Canada* | *Sept. 2020 — Jan. 2021*
- Re-evaluated project requirements and led mechanical design ideation for soft robotic continuum arm application on UAVs by drawing inspiration from hydrostatic skeletons and muscular hydrostat structures found in nature
- Designed and modeled soft robotic continuum arm in SolidWorks and applied FEA in GMSH, SOFA, and ANSYS to analyze and simulate mechanical behaviour

Projects

Portable Machine Shop | CAPSTONE PROJECT @ RYERSON UNIVERSITY · *2021*
- Designed a $4,400 portable machine shop directed towards contract manufacturing, maintenance, and competitive engineering design teams for convenient machining of small metal and plastic parts utilizing milling, turning, and drilling operations
- The design is a custom extruded sheet metal cabinet, consisting of a COTS mill and lathe; stowable add-on tool shelves, for expanding workspace area and mounting power tools; and a built-in winch and ramp, for easy transportation
- Project analysis consisted of top-down FMEA, human factor considerations, and static loading FEA for component validation

Helmet Impact Tester | TERM PROJECT @ RYERSON UNIVERSITY · *2020*
- Designed a machine for testing safety helmets' factor-of-safety, capable of impacting helmets at 28m/s with a force of 60N across six impact locations using three pneumatic piston end effector mechanisms
- Simulated design on an OMRON PLC utilizing PLC fiddle ladder logic software for pneumatic testing