# Austin**Luu**

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

## Technical Skills

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|---|---|
| **Programming Languages** | MATLAB, C/C++, Java, Python, VBA, JavaScript, LaTeX, Octave, VHDL, Ladder Logic |
| **Tools & Frameworks** | GIT, React, jQuery, Node.js, HTML, CSS, Bootstrap, npm, TensorFlow |

## Projects and Courses

### Kabo
HACK THE NORTH 2020++ ⬀                                                               *2021*
- Designed and implemented a Discord bot for simulating karaoke with live pitch and lyrical correctness scoring
- Developed using Python and JavaScript for the back end and front end respectively. Utilizing Aubio, Numpy, SpeechRecognition, Pydub, LyricsGenius, and Wave libraries for audio analysis and Node.js, Discord.js, and PythonShell for interfacing

### Machine Learning
ONLINE COURSE BY STANFORD UNIVERSITY ON COURSERA                                       *2021*
- Used SVM with Gaussian kernels to build an email spam classifiers with a test accuracy of 98.5%
- Implemented the K-means clustering algorithm to compress image sizes upwards of 90.0%
- Built a neural network implementing feedforward and backpropagation to recognize hand-written digits to 97.0% accuracy

### RUKPOP
LEAD WEB DEVELOPER ⬀                                                                   *2019*
- Piloted design and development of end to end web applications for organizing sponsorship, navigation, event updates, and communication for Ryerson University's "Korean Pop Culture" student organization
- Developed user-friendly mobile first web application utilizing JavaScript, CSS, HTML managed on Bluehost

### Parallel Computing Drone Swarm
PENNAPPS HACKATHON ⬀                                                                   *2018*
- Designed system and hardware architecture for a hazard detection 2D mapping robot which collects thermal, moisture, and relative location data from two autonomous IoT enabled ground drones; placing top 20th percentile
- Developed with: Python, C++, MQTT Protocol, Arduino 101s, laser cutting, and 3D printing

### Vision Motion
THACKS2 ⬀                                                                             *2017*
- Built an Android application that measures and graphs the kinematic motion from real-time computer vision using OpenCV

## Experience

### Celestica                                                                *Toronto, ON, Canada*
PRODUCT DATA ANALYST                                                          *May 2019 — Present*
- Initiated and managed an Aerospace & Defense value engineering cost savings project. Reducing excess inventory by over 20% and expanding product variance by over 15%, leading to an annual cost savings of $1.5 million
- Coordinated and managed $5 million in global Aerospace & Defense cross-functional sourcing projects
- Developed VBA macros for; consolidating & analyzing performance metric reports, consolidating & scrubbing customer BOMs for product data management, neural network predictive analysis of component cost based on description

### Ryerson Rams Robotics                                                    *Toronto, ON, Canada*
MECHANICAL DESIGN CO-LEAD                                                    *Sep. 2016 — Present*
- Piloted development of dynamic and static force model simulations in MATLAB for rocker bogie and differential bar mechanism modifications; increasing structural integrity by over 35% for the URC2019 competition, placing 2$^{nd}$ internationally
- Led an agile team of 15 in design & development of an autonomous robot with PID control developed in C++; placing 1$^{st}$ nationally over the 2018 & 2019 VEXU competitions

## Education

### Ryerson University                                                       *Toronto, ON, Canada*
B.ENG IN MECHANICAL ENGINEERING                                                      *2016 — 2021*
- GPA: 3.71 | Dean's Honour List
- Awards: Mechanical Eng. First Year Alumni Award | Robotics International Society of Manufacturing Engineers Award
- Relevant Courses: Intelligent Systems, Real-Time Computer Control Systems, Digital Systems, Linear Algebra and Statistics