Aidan **Bruneel**

Systems Engineer · Educator · Software Developer

☐ +1 (519) 859-1466 | ✉ aidan@aidanbruneel.com | 🏠 www.aidanbruneel.com | ⬛ aidanbruneel | ⬛ aidanbruneel

Summary

Mechatronic Systems Engineering graduate with 24 months of internship experience in the automotive industry. Interest in artificial intelligence, blockchain, computational linguistics, computer vision, human-computer interaction, robotics, and systems design. Passion for learning, teaching, accessibility, and music. Looking for full-time junior or new graduate software position starting May/June 2022, either in Toronto, the GTA, or remote.

Technical Skills   `Proficiency` `Familiarity`

Languages `C++` `C` `MATLAB` `Python` `LaTeX` `Visual Basic for Applications (VBA)` `Java` `Assembly` `PLC`

Tools `Arduino` `SolidWorks` `Catia V5` `Visual Studio` `Visual Studio Code` `Git` `Jupyter` `CMake` `Simulink`

Frameworks & Libraries `OpenCV` `ArUco` `NumPy` `Pandas` `Matplotlib` `Unity` `ROS` `TensorFlow`

Education

BESc Mechatronic Systems Engineering
London, ON

Western University
Sep. 2016 - Apr. 2021

- **GPA**: Overall = 3.7. Two-Year = 3.9.
- **Courses**: Robotic Manipulators, Control Systems, Embedded Systems, Microprocessors, Image Processing, Signal Processing.
- **Academic Awards**: Dean's Honour List (2021), Dean's Honour List (2019), Dean's Honour List (2017), Scholarship of Excellence (2016).

Work Experience

Teacher of the Deaf
London, ON

Robarts School for the Deaf
Jan. 2022 - Feb. 2022

- **Instructed** classroom lessons and coding activities for Deaf students in secondary-level Mathematics, Science, and Technology.
- **Collaborated** with interpreters and students to establish clear vocabulary of scientific and technical concepts in English and ASL.

Process Engineering Leader Intern
Stratford, ON

Schaeffler Canada, Inc.
May. 2019 - Aug. 2020

- **Managed** process engineering projects in safety, quality, and productivity by planning and leading the work of multiple departments.
- **Conducted** studies on process repeatability, cycle time, downtime, machine faults, and reject rate to inform engineering decisions.
- **Improved** parameters, tooling, and technologies of production processes with a focus on cost savings and LEAN manufacturing.
- **Documented** thorough setup and testing procedures, parameter modifications, ongoing work requests, and actualized cost savings.

Product Design Student Engineer
Chatham, ON

Continental Tire Canada, Inc.
May. 2018 - Aug. 2018

- **Applied** detailed GD&T to engineering drawings using CAD for machinists to manufacture fixtures and performance equipment.
- **Analyzed** thermal management product test data using data filtering algorithms and implemented into macros for company use.

Product Testing Student Engineer
Chatham, ON

Continental Tire Canada, Inc.
May. 2017 - Aug. 2017

- **Designed** measurement fixtures to test powertrain product lines for vibration, pressure leak/vacuum, corrosion resistance, etc.
- **Presented** test results to product design engineers using data visualization to inform design and specification revisions.

Projects

Haptic Guidance System to Assist Blind Persons to Locate Points of Interest
London, ON

Western University
Sep. 2020 - Apr. 2021

- **Developed** 3D camera pose estimation vision system which directs blind users via a haptic wearable to navigate indoors.
- **Integrated** Bluetooth communications from smartphone app hosting C++ OpenCV vision system to Arduino haptic wearable.
- **Empowered** users to confidently locate specific points of interest indoors without the use of vision or hearing with **90.32%** success.

Production Launch of Honda Wheel Bearing
Stratford, ON

Schaeffler Canada, Inc.
May. 2019 - Aug. 2020

- **Prepared** existing automated assembly line for new Honda product by reworking tooling/parameters and training production staff.
- **Investigated** root causes of failure to meet customer specifications and proposed product design and process improvements.
- **Implemented** process improvements while adapting to changes quickly to bolster customer rapport and prevent downtime costs.