Aidan **Bruneel**

SYSTEMS ENGINEER · EDUCATOR · COMPUTER PROGRAMMER

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

Technical Skills

Proficiency | Familiarity

COMPUTER LANGUAGES — **C++** **C** **MATLAB** **Python** **LaTeX** | VBA | Java | Assembly | PLC | Digital Logic

TOOLS & APPLICATIONS — **Arduino** **SolidWorks** **Catia V5** **Visual Studio** | Git | Jupyter | CMake | Simulink

FRAMEWORKS & LIBRARIES — **OpenCV** **ArUco** **NumPy** | Pandas | Matplotlib | Unity | ROS | TensorFlow

Education

BESc Mechatronic Systems Engineering
WESTERN UNIVERSITY

London, ON
Sep. 2016 - Apr. 2021

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

Work Experience

Teacher of the Deaf
ROBARTS SCHOOL FOR THE DEAF

London, ON
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
SCHAEFFLER CANADA, INC.

Stratford, ON
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
CONTINENTAL TIRE CANADA, INC.

Chatham, ON
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
CONTINENTAL TIRE CANADA, INC.

Chatham, ON
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
WESTERN UNIVERSITY

London, ON
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.
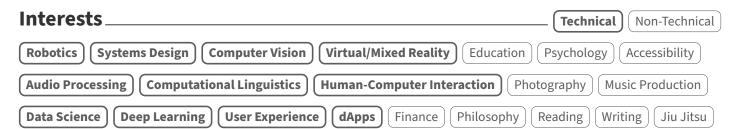
Production Launch of Honda Wheel Bearing
SCHAEFFLER CANADA, INC.

Stratford, ON
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 process and product design improvements.
- **Implemented** process improvements while adapting to changes quickly to bolster customer rapport and prevent downtime costs.

Interests

Technical | Non-Technical

Robotics **Systems Design** **Computer Vision** **Virtual/Mixed Reality** | Education | Psychology | Accessibility

Audio Processing **Computational Linguistics** **Human-Computer Interaction** | Photography | Music Production

Data Science **Deep Learning** **User Experience** **dApps** | Finance | Philosophy | Reading | Writing | Jiu Jitsu