SYSTEMS ENGINEER · EDUCATOR · COMPUTER PROGRAMMER

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Technical Skills

COMPUTER LANGUAGES C++ C MATLAB Python IATEX 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**

London, ON

WESTERN UNIVERSITY

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

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

• **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**

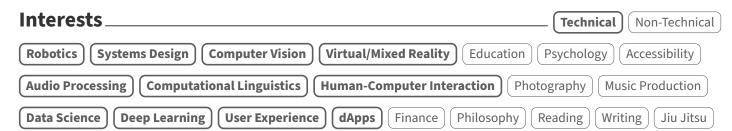
Stratford, ON

SCHAEFFLER CANADA, INC.

May. 2019 - Aug. 2020

Sep. 2020 - Apr. 2021

- 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.



AIDAN BRUNEEL · RÉSUMÉ APRIL 13, 2022