

# Aidan Bruneel

SYSTEMS DESIGNER · EDUCATOR · COMPUTER PROGRAMMER

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## Technical Skills

Proficiency

Familiarity

### COMPUTER LANGUAGES

MATLAB

C++

C

Python

L<sup>A</sup>T<sub>E</sub>X

VBA

C#

Java

SQL

Assembly

Digital Logic

### TOOLS & APPLICATIONS

Simulink

SOLIDWORKS

Catia V5

Ableton

Visual Studio

Git

Eagle PCB Design

### FRAMEWORKS & LIBRARIES

OpenCV

ArUco

Matplotlib

NumPy

SciPy

Pandas

Unity

ROS

TensorFlow

## Education

### Bachelor of Engineering Science in Mechatronic Systems Engineering

London, ON

WESTERN UNIVERSITY

Sep. 2016 - Apr. 2021

- **GPA:** Overall = 3.7. Senior Year = 3.9.
- **Academic Awards:** Dean's Honour List (2021, 2019, 2017), The Western Scholarship of Excellence (2016).
- **Courses:** Robotic Manipulators, Advanced Control Systems, Real-Time & Embedded Systems, Microprocessors & Microcontrollers, Advanced Image Processing, Advanced Signal Processing, Philosophy of Reasoning & Critical Thinking, Psychology of Perception.

## Work Experience

### Occasional Supply Teacher

Zurich, ON, London, ON

HURON-PERTH CATHOLIC DISTRICT SCHOOL BOARD & LONDON DISTRICT CATHOLIC SCHOOL BOARD

Mar. 2022 - Pres.

- **Supported** student learning by troubleshooting concerns and mediating peer conflict across multiple grade levels and subject areas.

### Teacher of the Deaf, Uncertified

London, ON

ROBARTS SCHOOL FOR THE DEAF

Jan. 2022 - Feb. 2022

- **Instructed** classroom lessons and laboratory 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.
- **Sparked** curiosity and passion for computer programming in Deaf youth by planning and supervising coding activities and projects.

### Operations Manager

London, ON

TAILORED BRANDS, INC.

Sep. 2021 - Dec. 2021

- **Organized** tuxedo rental service by automating the inventory tracking and reservation auditing systems using scripting on iOS.
- **Established** strong customer relationships through empathy, insight, and consciousness of customer needs and experience.

### 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 continuous improvement.
- **Documented** thorough setup and testing procedures, parameter modifications, ongoing work requests, and actualized cost savings.

### Product Design Engineering Student

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 Engineering Student

Chatham, ON

CONTINENTAL TIRE CANADA, INC.

May. 2017 - Aug. 2017

- **Designed** measurement fixtures to test engine 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 to navigate indoors via haptic wearable technology.
- **Integrated** Bluetooth communications from smartphone application 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 developed process and product design improvements.
- **Bolstered** customer rapport by directly discussing engineering improvements while adapting to changing customer requirements.
- **Implemented** process improvements and testing measures to reduce production losses (e.g., downtime, rejects, etc.) by **\$1.2M/year**.