

# Julian Pettit

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## EDUCATION

**University of Waterloo**, Waterloo, Ontario, Canada

- BASc in Mechatronics Engineering

Sep 2015 – Apr 2020

## WORK EXPERIENCE

**UTEX Scientific Instruments**, Mississauga, Ontario, Canada

*Product Development Engineer*

Sep 2017 – Dec 2017

- Created and implemented an electrical interface between a 32 axis motion controller and proprietary ultrasonic inspection software, enabling sales to additional NDT companies.
- Integrated the pulser and motion systems for a dual tower ultrasonic scanning system used to complement traditional immersion techniques, meeting specifications for 4 major jet engine manufacturers.
- Diagnosed errors in a malfunctioning pair of transmitter-receiver modules and collaborated with the overseas manufacturer to reproduce and solve similar issues on 10 devices.
- Wrote C# and SQL scripts to facilitate transducer database sorting and scraping.

**Virtek Vision International ULC**, Waterloo, Ontario, Canada

*Software Engineer*

Jan 2017 – Apr 2017

- Improved precision of retro reflector targeting algorithms for industrial laser projection devices using C++ and C#.
- Built comprehensive test suites to ensure product integrity prior to a major version launch, increasing coverage by 150%.

**Innovasium Digital Solutions Inc.**, Markham, Ontario, Canada

*Application Developer*

Apr 2016 – Aug 2016

- Created flexible web-based platforms to improve intra company communications, work flow, and invoicing using React/Redux, Rails, and SQL.
- Developed prototype applications for demonstrations based on constraints and criteria from the customer.

## PROJECTS

**Variable DC Power Supply**

- Built a power supply to convert 120 VAC to between 1 and 48 VDC using a potentiometer to control output and a mini voltmeter to display the output value.
- Working on implementing an adjustable current source to enable better use with power electronics.

**Bluetooth Door Lock**

- Created a remote locking and unlocking system to allow outside access to a keyless sliding glass door using a PWM regulated brushless servo motor and an Arduino microcontroller.
- Built a basic android application to allow password protected bluetooth control of the locking mechanism.

## CAMPUS ACTIVITIES

**Waterloo Engineering Society**

*Class Representative*

- Acted as a liaison between professors and students for two consecutive terms to facilitate communication of course and tutorial quality, class academic performance, and student concerns.

**University of Waterloo Kendo Club**

*Treasurer, Executive*

- Oversaw the use and maintenance of \$10,000 in club financial assets and the negotiation of the club budget details with the athletics department.
- Established and renewed club connections with equipment suppliers, tournament venues, and other Kendo clubs to support the growth of the sport in Waterloo.

## LANGUAGES

English: Native language.

French: Advanced (reading, writing); Intermediate (speaking).

German: Intermediate (speaking, reading); Functional (writing).

## SKILLS

Procedural/Object-Oriented Programming, SolidWorks Electrical/PCB(Altium), Control and Power Circuit Design, Actuators and Power Electronics, Ultrasound NDT, Application Development/Testing, Scripting.