

# Justin Turcotte

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HackerRank • <https://www.hackerrank.com/jturcotte0406>

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**Summary:** I am a (B.Eng.) Embedded Systems/Electronics Engineering student looking to apply proficient software and hardware skills in a software or engineering environment during a 4-month co-op work term between May – August 2019.

## SKILLS / RELATED INTERESTS

- Skilled in C development.
- Basic understanding of Linux environment & scripting.
- Familiar with C++, Java and JavaScript experience through past exposure.
- Adaptable and flexible in a high paced environment with many moving parts.
- Utilize Solidworks to create professional designs.
- Strong use of FPGA's - the Altera board and VHDL to design and test circuits.
- Adept multi-tasking skills through supervising staff and handling customer service as well as sales.
- Excellent time management, organization and communication skills.
- Video game design and programming to improve proficiency and skill in C# and Python.
- Understanding of machine learning fundamentals
- Basic grasp of C# through online courses and practice.
- Fundamental understanding of Python.
- Familiar with Yocto platform.
- Desire and ability to understand and learn new systems and concepts quickly.
- Familiar with MS Office Suite.
- Capable of keeping a calm demeanor when in a fast-paced environment.
- Excellent professionalism demonstrated through thorough documentation and testing of projects.
- Proficient in Multisim, Ultiboard, Altium and ISO Pro for PCB design and implementation.
- Studying robotics related papers and articles to broaden my understanding of the robotic field.
- Core grasp on HTML, XML and CSS in web development environments

## PROJECTS

**NOVEMBER. 2018 – DECEMBER. 2018**

### **CODED MESSAGING SYSTEM**

- Designed a program capable of transmitting and receiving audio and messages via RS232.
- Key features of the program are RLE compression, queueing of audio and text-based messages on the receiving end, two-way communications and variable message sizes.

**MARCH. 2018 – APRIL. 2018**

### **MINDSTORM ROBOTICS**

- Designed C software to maneuver a Lego Mindstorm robot to collect and deposit plastic eggs.
- Utilized touch and ultrasonic sensors to perform collision-detecting navigation of the bot.
- Utilized a colour sensor for detecting different colours of eggs.
- Utilized a photo-resistor to detect the polarized light and determine where to deposit eggs.

**JANUARY. 2018 – MARCH. 2018**

## LED MATRIX DISPLAY

- Designed a circuit capable of interfacing with an LED Matrix display utilizing Multisim, Ultiboard and ISO Pro.
- Designed C software capable of scrolling text through the LED Matrix display through an Axiom microcontroller.

## EDUCATION

SEPT. 2017 – PRESENT

### BACHELOR OF ELECTRONIC SYSTEMS ENGINEERING

CONESTOGA COLLEGE, GPA: 3.9

#### CORE CLASSES

- Obtained above 90% in Data Structures and Algorithms, Digital Design.
- Obtained 85% in Math III, Electronics II and Telecommunications and Signal Processing.

## EXPERIENCE

MAY 2019 – AUGUST 2019

### SOFTWARE DEVELOPMENT STUDENT – OS CORE, BLACKBERRY/CYLANCE

- Created recipes and patches in Yocto to contribute to a custom Raspberry Pi 3/3B+ build for endpoint IoT devices:
  - Modified Dash and Korn shell source code to secure directories and reject unauthorized input.
    - Such as piping scripts into the shells and running scripts in an unprotected location.
  - Modified bootup services to solve various bugs in the Yocto build.
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- Worked with a Nucleo-STM32F767ZI and FreeRTOS:
  - Configured MQTT communications between the Nucleo and a Raspberry Pi 3B+.
  - Implemented an XML parser to parse over the air XML instructions for permissions of IoT end-point devices.
- Assisting Cylance with expanding compatibility of their software to multiple Linux Distro and Flavours.
  - Created a Python script to ping Ubuntu's kernel mapping site and retrieve all kernel versions with their distro and flavour into a text document.

MARCH 2019

### AI FOR GOOD HACKATHON, GEEKSPEAK COMMERCE

- Utilized machine learning to identify basic facial emotions of individuals such as happy, sad, angry
- Used Microsoft Azure Custom Vision to create a model for identifying emotions

AUGUST 2016 – APRIL 2019

### SUPERVISOR, BULK BARN FOODS LIMITED

- Co-Ordinate and effectively lead a team with the use of effective communication skills.
- Lead in an organized and efficient manner, effectively closing the store on time and in great condition.
- Maintain excellent customer service skills through friendly and informational interactions with customers.

NOVEMBER 2018

### JUNIOR ENGINEERS COMPETITION, CONESTOGA COLLEGE ENGINEERING SOCIETY

- Participated in a team of 4 to design and implement a device that would scoop water from one location and deposit it in a desired destination with limited spillage.
- Restricted to limited materials such as flat or cylinder cardboard, plastic tubing, string, tape.
- Restricted to a budget that reflected a real-world situation (materials were priced as if it were a real-world design).
- Limited time of 3 hours managed through efficient team work and collaboration to achieve the task.

## INTERESTS

- Writing creative fictional stories that I will use to create a game in the future.
- Interested in Home automation tinkering with a Raspberry Pi and Python.
- Socializing & meeting new people.
- Reading science fiction, fantasy novels.