

# Craig Loewen

**Phone:** (519) 781 2563

**Email:** craigloewen@gmail.com

**Website:** www.craigloewen.com

**Github:** github.com/craigloewen

3B Mechatronics Engineering – Option in Management Science, University of Waterloo

---

## Skills

---

- Programming Languages: C#, C, C++, Java, Python, MATLAB, Android, SQL, and Visual Basic
- Concepts: Computer Vision, Machine Learning, Real Time Systems, User Interface Design
- Skills: Product and Program Management, Product Design, Problem Solving and Debugging as evidenced by being ranked 1<sup>st</sup> in the Mechatronics Engineering class

## Technical Projects

---

**Spot Me** www.craigloewen.com/spot-me

August 2016 - Present

- Developed an open source application that uses deep learning algorithms to analyze your exercise form when using weights and provide personalized training advice, in C# on the Universal Windows Platform
- Collaborated with a graphics designer to develop product branding, resulting in a 3.5% conversion rate for subscriptions to product news and the application being featured on www.xboxdynasty.de

**Artificial Intelligence to Learn a Game** www.craigloewen.com/aiprojectinfo

January – May 2016

- Developed a Neural Network that is modified by a genetic algorithm to learn a simple game that exceeds the performance of an average human player within the first 10 games

**Real-Time Dinosaur Runner Game**

December 2015

- Built a dinosaur running game using multi-threading and hardware interrupts for faster response time
- Achieved a mark of 100% while developing on the RTX Real-Time operating system kernel on the ARM Cortex-M3 board using C and constrained by 32 KB of RAM

## Work Experience

---

**Process Engineering Student**, General Motors, Saint Catharines, ON

September – December 2016

*Automotive Industry, Powertrain Production Facility, Transmission Machining*

- Implemented a camera to recognize and sort defects using optical recognition software and PLC logic
- Developed a program to create a readable quality report from OEM custom machine code in C#

**Quality Engineering Student**, Siemens, Konstanz, Germany

January – April 2016

*Postal Automation Industry, Global leader in automation, Airports and logistics division*

- Designed and implemented a new tool calibration system and device to reduce calibration time by 40%
- Designed a PCB for the sensor's hardware interface, and programmed the user interface in C++

**Student Group Leader**, General Motors, Ingersoll, ON

May – August 2015

*Automotive industry, Builds GMC Terrain and Chevrolet Equinox, leanest automotive plant in Canada*

- Reduced line downtime by 20% through skilled management of over 30 unionized employees
- Independently executed a 5S continuous improvement project to reduce repair costs by \$30,000 a month

**Project Engineering COOP**, CGC Inc., Hagersville, ON

January – April 2014

*Building materials industry, Fortune 500 USA based multinational company*

- Instituted a policy to save the company \$15,000 annually through the purchase of a drone
- Programmed a path finding software to optimize forklift traffic routes in Java

## Awards and Achievements

---

**University of Waterloo**

September 2013 - Present

- First in Class Engineering Scholarship, for being ranked 1<sup>st</sup> in academics in a class of 140+ Students
- Richard Motzeg Memorial Scholarship, for excellence in academics and extracurricular leadership
- President's Scholarship of Distinction, for academic achievement

## Extracurricular Activities and Interests

---

**President of University of Waterloo Weightlifting and Fitness Club**

September 2015 – Present

**Languages:** Conversational German and French