

TECHNICAL SKILLS

- **Mobile:** Experience developing iOS games, and a game engine and development tools for iOS.
- **Web:** Developed web apps using Ruby on Rails and Javascript.
- **Desktop:** Created web enabled desktop applications for Windows using C# and .Net
- **Hardware:** Developed and analyzed circuits for a voltage, current, and temperature monitor. Developed low level software for embedded systems to run the monitoring system.
- **Languages:** C, C++, C#, Obj-C, Java, Ruby, Javascript, Perl, Assembly
- **Software:** AutoCAD, Solidworks, Unigraphics NX

WORK EXPERIENCE

Embedded Systems Developer

Factor Power

May 2011 – August 2011

Toronto, ON

- Worked with a team to develop a battery monitoring system sensing current, voltage and temperature.
- Wrote embedded C code to detect problems in the batteries, reporting problems to the system administrator using a web interface.
- Designed and tested circuits to sense voltage and current.

Mobile Game Developer

XMG Studio

January 2010 - April 2010

Toronto, ON

- Developed video games for iOS with a team of 6 developers.
- Created the animation, input handling, and event handling of a cross platform game engine for Android, Blackberry, and iPhone using C++ and Objective-C.
- Released an iPhone game, "Blade Battle", using the Cocoa framework, Chipmunk Physics library, and Cocos2D graphics library.
- Created a tile based level editor and physics engine using XML, "Tiled" map editor, and the Chipmunk Physics library.

Software Engineer - Intern

Pason Systems Corp.

September 2010 - December 2010

Calgary, AB

- Developed automated GUI and performance testing scripts using Shell and Perl to measure the capacity and performance of Pason's Electronic Drilling Recorder (EDR).
- Conducted Quality Assurance (QA) testing to identify and reproduce specific issues, ultimately determining circumstances that caused each bug.
- Created a tool which parsed text files to find the words that need to be translated, reported them to the translator, and reinserted the translated words into the text file.

TECHNICAL PROJECTS

Distributed Computing Infrastructure

- Created a scalable, fault tolerant distributed computing infrastructure in Python.
- Developed a working prototype of the infrastructure in 2 days without knowing Python.

Facebook Hackathon

- Entered a competition to develop an idea in 24 hours with 4 teammates.
- Competed against 50 teams and won. We will compete in the international championship at Facebook HQ in November.
- Developed a C# desktop app similar in concept to Dropbox that uploads all photos from a folder to Facebook as they are added to the folder.

Robotics and Electronics

- Founded a FIRST robotics team at my high school.
 - Developed robot that won “Most Innovative Robot” and won second place at the Idaho State FIRST Robotics Championship.
 - Developed a robot on the Arduino platform involving serial communication and image processing to detect and react to physical surroundings.
 - Designed circuitry to power lasers, microcontrollers, and servo motors.

Velocity Residence for Entrepreneurs

- Member of the Velocity residence for entrepreneurs at the University of Waterloo.
 - Joined a team of students creating a photo syncing application for Facebook.

Google AI Contest

- Developed an AI from scratch in C++ that competed in the Google AI contest.
 - Placed 683rd out of 4,619 competitors.

RBC Shad Entrepreneurship Cup

- Worked with a team of 30 self-organized high school students in 3 layers of management.
 - As a team we created a viable business plan, marketing plan, website and product prototype.
 - I constructed the prototype and lead the prototype development team.
 - Awarded second best prototype, best marketing plan, second best website, and third best overall.

Game Development

- Created a physics based Flash video game similar to “Ball Revamped” using ActionScript 2.
 - Created Half Life 2: Deathmatch mods in a level design workshop
 - Used wings 3D to create textured and UV mapped models.
 - Disassembled and reverse engineered the popular free game “Cave Story” and modified it using x86 assembly to create new levels, weapons, and enemies.

RELEVANT COURSES

- **Sensors and Instrumentation**, including circuit design, circuit theory, op-amps, and feedback.
 - **Real Time Operating Systems**, including interrupt handling, real time processing, file systems, and concurrency.
 - **Numerical Methods**, including number systems, machine error, numerical solutions of ODEs, matrix calculations.

EDUCATION

**Candidate for Bachelor of Applied Science (BASc), Mechatronics Engineering
University of Waterloo, Waterloo, ON.
Expected graduation May 2014**

HONORS

University of Waterloo Presidents Scholarship

Awarded June 2009

Pierre Mury Memorial Positive Contribution Award

Awarded June 2009

Top Math and Physical Sciences student

Awarded June 2009