

## B.A.Sc. MECHATRONICS ENGINEERING, UNIVERSITY OF WATERLOO

### TECHNICAL SKILLS

- Solid programming experience in Java/J2EE, C++, C, Matlab, Python; Proficient in HTML, CSS, PHP, MySQL; Currently learning MEAN stack
- Experience with Real Time Operating Systems, Bash scripting, Git
- App design and development skills gained through developing on Android
- Extensive experience on Arduino and Raspberry Pi gained through personal and school projects
- Excellent 3D CAD skills – Proficient at Solidworks, Pro Engineer, NX, Google SketchUp, AutoCAD, Abaqus
- Hands-on electrical skills – Soldering, working with Multimeters, Function Generators, Oscilloscopes

### SKILLS SUMMARY

- Exceptional analytical and problem solving skills developed while working on several individual and group projects
- Adaptable and always eager to learn. Ability to work under minimal supervision
- Strong team player; highly motivated and hardworking

### WORK EXPERIENCE

<b>DELOITTE</b> Business Technology Analyst, Systems Integration Jan 2015 - present	<ul style="list-style-type: none"><li>• Working on a large technology transformation program at a top 5 Canadian bank</li><li>• Knowledge of Enterprise IT Architecture gained through working on program estimation</li><li>• Program management experience gained through working within PMO</li></ul>
<b>ROCKWELL AUTOMATION</b> Intern, Quality Engineering Oct - Dec 2012	<ul style="list-style-type: none"><li>• Reduced average defects per unit in medium voltage drives from 10.2 to 7 using Pareto &amp; Process Failure Mode Effect Analysis (PFMEA) and implementing countermeasures; led to massive cost savings</li><li>• Greatly simplified root cause and Pareto analysis by developing self-updating quality analysis tool using python &amp; VBA</li></ul>
<b>TOYOTA MOTOR MANUFACTURING CANADA</b> Java/J2EE Developer Jan -Apr 2012	<ul style="list-style-type: none"><li>• Optimized annual inventory process by 50%, leading to cost savings of \$200k+; Improved efficiency attained through designing and implementing a tablet based solution based on J2EE</li><li>• Developed several modules for internal software system used to audit employee hours and plan vacation days in Java</li></ul>
<b>2SOURCE MANUFACTURING</b> Manufacturing Engineering Co-op May - Aug 2011	<ul style="list-style-type: none"><li>• Designed and implemented an internal company request management system leveraging PHP, MySQL, HTML &amp; JS in order to streamline process leading up to manufacturing</li><li>• Designed and implemented database for parts using MS SQL Server &amp; C# with graphical front-end</li><li>• Created and modified several parts and drawings in Solidworks for production</li></ul>

## RELEVANT PROJECTS

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<b>3D Laser scanner</b>	<ul style="list-style-type: none"><li>Designed and built low cost, innovative laser sensor capable of modeling its environment and objects around it in 3 dimensions. 3D point cloud data is streamed to computer in real time wirelessly over UDP</li><li>Possible applications: autonomous robot navigation, physical object replication, animation and 3D modeling</li></ul> <p>Technologies used: Raspberry Pi, Arduino, C++, Python, Matlab, Meshlab, image processing, UDP, ZigBee, machining, 3D printing, circuits</p>
<b>Autonomous boat</b>	<ul style="list-style-type: none"><li>Designed and created an autonomous boat capable of navigating itself around racecourse</li><li>Utilized IR proximity sensors, IMU, implemented PID controller on Arduino</li></ul>
<b>Real Time Operating System</b>	<ul style="list-style-type: none"><li>Programmed Real Time Operating System (RTOS) on top of UNIX using C, C++ and concepts in algorithms and data structures</li><li>Implemented concurrency, timing services, process management, inter-process communication, scheduling and other features</li></ul>
<b>Facebook Hackathon 2014</b>	<ul style="list-style-type: none"><li>Designed and built interactive light-up T-Shirt in 24 hours</li><li>LEDs in 'Like-meter' light up as people like your recent activity on Facebook</li></ul> <p>Technologies used: Raspberry Pi, Facebook APIs, Python</p>

## EDUCATION

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**UNIVERSITY OF WATERLOO**  
*B.A.Sc. Honors, MECHATRONICS  
ENGINEERING*  
CLASS OF 2014

### Relevant Courses:

Machine Intelligence, Computational Neuroscience, Finite Element Methods, Real Time Operating Systems, Algorithms & Data Structures, Microprocessor Systems & Interfacing, Linear Systems and Signals, Digital Controls, Technical Entrepreneurship

## VOLUNTEER EXPERIENCE

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<b>Engineers Without Borders (EWB)</b>	<ul style="list-style-type: none"><li>Volunteered on fundraising team. Assisted with event organization and management</li></ul>
<b>UW Canada Day Celebrations</b>	<ul style="list-style-type: none"><li>Volunteered for event organization and security</li></ul>

## ACTIVITIES AND INTERESTS

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- Was actively involved with several student clubs including fencing, tennis, Engineers Without Borders (EWB), badminton, UW Tennis, archery, salsa, paintball
- Enjoyed skydiving, 1hr experience flying Cessna 152