MITCHELL J. CATOEN

1B Mechatronics Engineering
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SKILLS SUMMARY

- Experienced in object oriented software design using Java and C++
- Familiar with C, C#, HTML/CSS, MySQL, Python, RobotC, XML, and PLC (Allen Bradley)
- Proficient in SolidWorks, Autodesk Inventor, AutoCAD, traditional drafting, and GD&T
- Skillful in cross platform game development using LibGDX (Java - Export to Android, IOS, HTML, and Desktop)
- Working knowledge of PID control and tuning
- Able to design robotic systems and seamlessly integrate software with hardware
- Experience in manufacturing and machine operations

WORK EXPERIENCE

Controls Engineering Intern, Mold-Masters, Georgetown, Ontario, June - August 2014

- Created 'E-MERGE', a program (including a GUI) which loads settings into injection molding machines using another machine's data (XML) or a specification sheet (Excel)
- Performed testing on injection molding machines to produce a PID tuning guide for servo pressure control
- Found and fixed bugs to improve PLC control software

Math Tutor, Georgetown, Ontario, 2012 - 2014

- Taught math concepts creatively to middle and high school students

Retail Sales Associate, Reebok, Milton, Ontario, July 2013 - August 2014

- Communicated efficiently and effectively to sell as much company product as possible

PROJECTS

Academic Projects, 2014

- Designed, built, and programmed a photocopier using Lego NXT and RobotC
- Built and programmed a hydrogen fuel cell powered car in C; placed first overall in University of Waterloo's first year mechatronics fuel cell car competition
- Disassembled, studied, and reassembled an internal combustion engine and remote control car

Android Game Development, 2014

- Developed '2Stack', an android arcade game, using Java and LibGDX that will be released on the Google Play Store in February 2015
- Created a version of 2Stack for desktop

FIRST Robotics, 2013/2014

- Successfully led the software engineering division of a FIRST robotics team in creating software to control a fully featured robot
- Modified and debugged code in Java under extreme pressure at international competitions
- Semi-finalist in two international FIRST robotics competitions

Midnight Sun Design Team, 2015

- Work as a part of a team to construct a globally competitive solar powered car
- Currently work with a group of five students to manufacture the suspension system

Arduino, 2014

- Modified power output to a system of LED Christmas lights to flash according to user direction using an Arduino and 5V relays
- Created a program in C++ to convert user input into Arduino software

AWARDS AND ACHIEVEMENTS

Governor General's Award (2014); awarded to the student with the highest overall average in his/her secondary school graduating class

Cooper Standard Automotive Engineering Award (2014); awarded to a Georgetown District High School student to recognize his/her exceptional aptitude for engineering

Paul Legge Award (2014); awarded to the athlete with the highest overall average in Georgetown District High School

Halton Math Contest School Champion (2014); competed in a team of three to achieve the highest score within Georgetown District High School and move on to the regional competition

Chem 13 News Contest School Champion (2014); Georgetown District High School champion for the 2014 Chem 13 News chemistry contest

G.D.H.S. Chemistry Award (2014); achieved the highest grade in chemistry within Georgetown District High School

Canada Computing Contest, Senior Level (2014); wrote programs in Java to solve given problems and achieved the top mark at Georgetown District High School

EDUCATION

Candidate for Bachelor of Applied Science in Honors Mechatronics Engineering

University of Waterloo, September 2014 - Present

Relevant Courses

- Mechatronics Engineering: SolidWorks, AutoCAD, Traditional Design, GD&T
- Digital Computation: C++, RobotC, PLC
- Algorithms and Data Structures: C++
- Circuits: Electromagnetic theory, electrical circuit elements, AC/DC circuit analysis

Ontario Secondary School Diploma, Georgetown District High School (2010 - 2014)

McMaster Physics Inquiry Workshop (2014); chosen by teachers to attend weekly seminars on modern physics

Waterloo Engineering Society SolidWorks Workshop (2014); trained in basic SolidWorks design

INTERESTS AND ACTIVITIES

I enjoy playing hockey, snowboarding, and working on challenging innovative projects.