

Objective

To experience software engineering at a renowned, innovative company in a position that challenges my creativity and further enhances my machine learning, programming and design skills.

Highlights of Qualifications

- About 10 years of exposure to programming, with this intensifying in the past 4 years
- 4 years of experience with Java; acquainted with C++, Perl, Game Maker Language, SQL, matlab, HTML, CSS and Javascript. Familiar with the testing framework JUnit and version control systems git and subversion.
- High Achiever, Avid Learner, Team Player, Creative Thinker and Problem-Solver

Education

2013-	Univ. of Waterloo: MMath in Computer Science, Machine Learning
2009-2013	Univ. of Alberta: B.Sc. Honors Mathematics with Computing Science Minor, 4.0/4.0 GPA
2006-2009	Harry Ainlay High School: Graduated with International Baccalaureate Diploma and Alberta Diploma

Highlights of Awards and Achievements

2013-2015	Received the University of Waterloo Cheriton I award (\$10,000 per year for 2 years)
2013-2014	Received the NSERC Canada Graduate Scholarship-Master's worth \$17,500/yr, along with a University of Waterloo President's Graduate Scholarship top-up (\$10,000/yr).
2013	Received the Lieutenant-Governor's (14k) Gold Medal, which is awarded to the convoking student from an Honours program in the Faculty of Science who has shown the <i>highest distinction</i> in scholarship.
2009-2013	15+ scholarships during undergraduate studies, with a total value of over 15000 CAD; includes mathematics awards for 'a student with <i>superior</i> academic achievement convoking with a BSc degree with honors in math', and for 'a student of <i>outstanding academic merit</i> completing the second/third year of the honors program in math'.
2009-2012	Held the NSERC Undergraduate Research Award (USRA) all 3 summers
2009-2012	Participated in the ACM ICPC International Collegiate Programming Contest Rocky Mountain Regionals all 4 years. Achievements include <i>5th place</i> in a team with Xiaomin Zhang and Timo Ewalds in 2009, <i>6th place</i> in 2012 with David Spies and Jason Yuan.
2007-2009	Invited to the provincial round of the Alberta High School Math Competition every year
2006	The first computer game of my team was awarded (in top 20) in the U19 Hungarian National c3 Computer Competition (www.verseny.c3.hu)
2006	<i>7th place</i> in the acclaimed KöMaL correspondence mathematics competition (Mathematical and Physical Journal for Secondary Schools) category "K"

Work and Project History

Aug 2012 – Present	<i>Implementing a new artificial intelligence algorithm to play sztetris</i> - Extending an already existing Java sztetris engine with a new Ai player based on a newly developed combined reinforcement and machine learning algorithm. Developed in free time.
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- May 2012 – Aug 2012 *NSERC USRA in the Dept. of Mathematics: Polygonal Billiards*
- Worked on programs aiding mathematical research about periodic trajectories in triangles
 - Extended the functionality of, improved upon and made more efficient a software family of over 15k lines of Java code inherited from a previous intern
 - *Modularized* the existing code, introduced *JUnit* testing and *version control* to the project
 - Was required to develop GUI and use multiple *threads*
 - With the combination of ideas of my supervisor and my programming skills we *doubled the speed* of the classifier program, which is quite significant considering these programs may run for months
- Nov 2011 – Apr 2012 *Databases and Machine Learning Class Projects:*
- Implemented a command line twitter-like system using Oracle SQL and Java in a team of 2
 - Turned information extracted from Twitter into a Berkeley DB to allow for fast searching of terms
 - Created a matlab automatic stock day-trader in a team of 3 using machine learning techniques
 - My hand-written letter recognition program *ranked 3rd* in joint undergraduate – graduate course
- May 2011 – Aug 2011 *NSERC USRA in the Dept. of Computing Science: Quaridor Player*
- Worked on, and evaluated a UCT-based Quoridor player on *clusters*
 - Improvements were also made to the functionality of the base Quoridor program and the GUI
 - Contributed over 3000 lines of Java code spread out in 35 classes
- May 2010 – Aug 2010 *NSERC USRA in the Dept of Computing Science: Solving Sokoban*
- Added an information overlay to a Java Sokoban implementation to aid human solvers
- Jun 2009 – Aug 2009 *Implemented an engine in C++ for the board game Quoridor*
- Nov 2008 – Dec 2008 *Hamlet Game - English Project*
- Completed a simple artistic top-down shooter and puzzle game in Game Maker
 - Assumed the position of project leader and programmer, partner provided graphics
- 2005 – 2008 *New Generation Games (N2G)*
- Started a 3-member game development team as leader and programmer in high school
 - Experimented with multiple simple games in Game Maker, pushing it to its limits with 3D graphics and networking; completed the most promising ideas

Other noteworthy activities

- After learning about evolution in biology class I wrote a program in which tiny creatures learned how to get to their mating site through the shortest path (available to them) possible.
- I have put together basic websites for personal use and fun. For instance, I created a website where one may encrypt and decrypt text with the Vigenère cipher. I also wrote javascript to automatically generate a table of contents for a report I was writing in html. A website to visualize locations of used cars sold on kijiji is work in progress.
- Experimented with using a Wiimote as PC game controller. Made own sensor bar in the process.
- Supervised two high school student interns at the University of Alberta in the summer of 2012. I guided their learning of programming, reinforcement- and machine learning.
- Provided guidance to groups of talented students solving programming contest problems in the math camp organized by U of A Math Professor Andy Liu in 2010 and 2012.
- Tried and helped mark the “Iversion Exam” organized by the Department of Computing Science, a programming contest for Alberta High School students.
- Organized a Machine Learning Theory reading group in 2013 at the University of Waterloo.