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| Michael Weingert  Mechatronics Engineer, Computer Scientist, Mathematician | www.michaelweingert.com  mpweingert@gmail.com  519-673-7870 |

Technical Skills

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|  | Artificial Intelligence: Machine learning, data science, human computation, multi agent systems, robotics |
|  | Mobile: Android, iOS, Windows 8, touch gestures, embedded web applications |
|  | Graphics: 3D rendering, computer vision, GPU programming, image processing, filtering, and transformations |
|  | Languages: C, C++, C#, Java, Objective-C, CSS, HTML, MySQL, JavaScript, OpenGL, OpenCL, GLSL |

Work Experience

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|  | University of Waterloo  **AI Research Assistant** Waterloo, ON  Jan 2013 - Present | * Researched machine learning, robotics, multi-agent theory, human computation * Prepared and presented research papers at HCOMP 2013 and Gamification 2013 on TrailView (see personal projects below) * Created a vision-based assistive device for Alzheimer’s patients using a Kinect |  |
| Microsoft  **Kinect 2 R&D Engineer** Redmond, WA  May 2013 - Aug 2013 | * Worked on machine learning with the Kinect 2 skeleton tracking pipeline * Generated machine learning pipelines for analyzing large amounts of data * Collaborated with first party game publishing partners to create solutions that are technically strong and improve user experience |
| Microsoft  **Mobile Software Engineer** Redmond, WA  Sep 2012 - Dec 2012 | * Created native applications for iOS and Windows 8 on Microsoft CRM team * Constructed a communication and authentication framework between web-based code and native code * Assumed responsibility as creator, sole developer, and tester of the apps |
|  | Ubisoft  **AI Game Programmer**  Toronto, ON  Jan 2012 - May 2012 | * Extended the current state machine to respond to environmental factors * Collaborated across several teams to create an efficient and effective AI response with polished user experience * End-to-end owner of project from conception to completion |  |
|  | Sunnybrook Hospital  **Data Visualization Engineer**  Toronto, ON  Sep 2010 - Sep 2011 | * Created a new application in C# to acquire and display frames of data from a 3D ICE catheter in real time * Utilized OpenGL for image rendering, OpenCL, and GLSL for image processing * Produced a low-level data pipeline to aid in real-time filtering |  |

Personal Projects

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|  | TrailView  May 2013 - Current | * Creating mobile apps where users submit hiking photos to compete and earn rewards * Aiming to recreate Google StreetView for hiking trails |  |
| Gesture Recognition  Oct 2012 – Current | * Researching different methods of classifying touch gestures on mobile devices * Examining shape matching as well as machine learning algorithms |
| Chess AI  Feb 2012 – May 2012 | * Utilized reinforcement learning and genetic algorithms to train an evaluation function * Trained AI with over 4000 training games against itself and 6 games played against human volunteers at a design symposium (which the AI won) * Developed a 3D application to interface with human players * Increased search efficiency by alpha-beta pruning the minimax/decision tree and utilizing multithreading |
| Sudoku AI  Jan 2012 – Feb 2012 | * Employed constrained and backtracking search algorithms to solve a Sudoku puzzle |

Education

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|  | University of Waterloo  Sep 2009 – May 2014 (expected) | * **Major:** Mechatronics Engineering * **Minors:** Pure Math, Computer Science * **GPA:** 3.96 (out of 4.0) * **Relevant Coursework:** Introduction to Artificial Intelligence, Real Time Operating Systems, Embedded Programming, Parallel and Concurrent Programming, Pattern Recognition |  |
|  | Stanford (online)  Aug 2012 – Mar 2013 | * **Relevant Coursework:** Introduction to Machine Learning, Probabilistic Graphical Models, Compilers, Game Theory |  |

Awards

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| Academic Honours | * President’s Research Scholarship (twice: 2012, 2013) * Gamification Design Finalist, Gamification 2013 (2013) * Dean’s Honour List (2009-2012) * Professor’s Choice, Waterloo Student Design Competition (2012) * President’s Scholarship of Distinction (2009) * 3rd Place Waterloo Engineering Competition Jr. Design Competition (2009) |  |
| Professional Honours | * Microsoft Hackathon Winner, Microsoft (2013) * ThinkWeek Finalist, Microsoft (2013) * NSERC Research Grant, Colibri Technology (2010) |  |
| Publications | * TrailView: Combining Gamification and Social Network Voting Mechanisms for Useful Data Collection (in the proceedings of HCOMP 2013) |  |

Activities

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|  | Sports: Soccer, tennis, running, gym enthusiast |
|  | Volunteering: First year student mentor at University of Waterloo, orientation week leader |
|  | Exploring: Hiking, travelling, learning languages, trying new food |
|  | Consuming Media: Reading, romantic movies, television |