

# Paul McInnis MASc. BASc.

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## Contact

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[LinkedIn](#)



[GitHub](#)



[Website](#)

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## Interests

Machine Learning, Research, Data Science, Optimization, Simulation, Prototyping

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## Experience

[DarwinAI](#) full-time

October 2018 to present

- Development of GenSynth platform for optimization and explainability of A.I.
- Specific model support for customers using platform across a wide variety of fields
- Low-level Tensorflow development in-support of graph manipulation
- Implementation of a quantization pipeline
- Research and development work for purposes of improving platform reliability
- Development of live demos which I presented at an AI conference

[Rave.dj](#) full-time

September 2017 to November 2018

- Designed a novel, state-of-the-art, neural network for structural analysis of music
- Music Information Retrieval (MIR) research in support of automated A.I. DJ app
- Applied data science to quantify neural network performance in the product
- Managing an annotation framework, training annotators and building parser tools
- Developing scalable implementations to run in Docker containers on Google Cloud

[University of Waterloo Alternative Fuels Team](#)

August 2015 to August 2017

MaSc

- Engineering Manager, responsible for developing A.I. projects & electrical systems
- Developed hardware and software platform for training object detection and tracking algorithms with Waterloo's autonomous vehicle research group
- Designed simulation models for new and emerging powertrain technologies

[Aterica Health](#) co-op

April 2014 to August 2014

- Design engineering in support of a the 'Veta', a smart and connected epipen case
- Prototyping of mechanical and electrical design and design for manufacture (DFM)

[Aeryon Labs \(now FLIR\)](#) co-op

September 2013 to December 2013

- Software engineer co-op, supporting battery management and test software
- Developed an on-site sensor server to support post-manufacture calibration

[Pebble \(now Fitbit\)](#) co-op

January 2013 to April 2013

- Embedded software engineering co-op responsible for continuous integration
- Implemented a Bluetooth interface for the pebble watch

[ATS Automation](#) co-op

May 2012 to August 2012

- Controls engineering design co-op supporting automated manufacturing
- Improved and refined state-based PLC logic for malfunctioning automation

[ReTiSoft](#) co-op

September 2012 to December 2012

- Robotics systems engineering co-op working in the field of laboratory automation
- Fully-automated ELISA system integration at customer's research laboratory
- Software driver development to support microplate handling tools

Education	University of Waterloo Waterloo, Ontario, Canada.	September 2015 to August 2017
	<ul style="list-style-type: none"> <li>• MAsc., <a href="#">Mechanical and Mechatronics Engineering</a> Intelligent Vehicle Development through Scalable Data Collection Processes and Simulation</li> <li>• Advisor: <a href="#">Professor Roydon Fraser</a></li> <li>• Area of study: Hybrid powertrain simulation, Advanced Driver Assistance Systems (ADAS) development and innovation (<a href="#">Thesis</a>)</li> </ul>	
	University of Waterloo Waterloo, Ontario, Canada.	September 2010 to June 2015
	<ul style="list-style-type: none"> <li>• BAsc., Mechatronics Engineering, Co-op Program</li> <li>• Final Year Project: <a href="#">All-season, AWD, hybrid electric bike</a></li> </ul>	
Proficiencies	<ul style="list-style-type: none"> <li>• Python, C, C++, Java, PLC, bash, MATLAB/Simulink, LaTeX, Git &amp; HTML/CSS</li> </ul>	
Publications	<ul style="list-style-type: none"> <li>• Kim, H. and Dinakar, C. and McInnis, Paul and Rudin, D. and Benain, X. and Daley, W. and Platz, E., "<a href="#">Inadequacy of current pediatric epinephrine autoinjector needle length for use in infants and toddlers</a>", Annals of Allergy, Asthma &amp; Immunology, vol. 118, no. 6, pp. 719 - 725, 2017.</li> <li>• Borg, E. H. and Cherler, C. and Chinnick, J. and Edwards, R. and Fisher, M. and Leyn, A. and McInnis, Paul and Orzel, S. and Wolter, H. and Stahlbaum, J., "<a href="#">System and device for management of medication delivery devices</a>", Patent CA 2952167, 2015.</li> <li>• Catton, J. and Sean, B. and McInnis, Paul and Fowler M. and Fraser R. and Y. Steven and Gaffney B., "<a href="#">Comparative Safety Risk and Use of Repurposed EV Batteries for Stationary Energy Storage</a>",</li> </ul>	
Awards	<a href="#">NSERC</a>	April 2014 to August 2014
	<ul style="list-style-type: none"> <li>• Undergraduate Student Research Award, Natural Sciences and Engineering Research Council of Canada</li> </ul>	
	<a href="#">University of Waterloo Merit Scholarship</a>	September 2011
	<ul style="list-style-type: none"> <li>• Undergraduate Tuition Scholarship</li> </ul>	
	<a href="#">TARDEC Creativity and Innovation Grant</a>	September 2009
	<ul style="list-style-type: none"> <li>• Awarded for <a href="#">blackjack-playing robot</a> at Robofest world championship</li> </ul>	