

# Gregory Koch

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CONTACT INFORMATION	<u>Until June 2015:</u> Department of Computer Science 6 King's College Circle Toronto, ON M5S 3H5 Canada	<u>Permanent:</u> 344 W. Azalea Dr. Chandler, AZ 85248 USA
OBJECTIVE	A data scientist position. Particularly interested in industrial-scale projects involving big data, statistical inference, and data assimilation/summarization.	
EDUCATION	<b>Master of Science in Computer Science</b> , June 2015. (GPA: 3.68) University of Toronto (Toronto, ON) Thesis: <i>Siamese Neural Networks for One-shot Image Recognition</i> Advisors: Richard Zemel and Ruslan Salakhutdinov <b>Bachelor of Science in Mathematics and Computer Science</b> , May 2013. (GPA: 4.0) Austin College (Sherman, TX)	
EXPERIENCE	<i>Graduate Research Assistant in Machine Learning</i> Fall 2013-Spring 2015 University of Toronto, Toronto, ON. <ul style="list-style-type: none"><li>• Used Python to develop large-scale convolutional neural network architectures for classification, focusing on character recognition problems where limited data is available for unknown classes.</li><li>• Learned Cudamat and implemented machine learning algorithms on the GPU.</li></ul> <i>Research Assistant in Machine Learning</i> (National Science Foundation REU)                      Summer 2012 University of Massachusetts, Amherst, MA. <ul style="list-style-type: none"><li>• Implemented radial basis function networks in Python to predict pediatric patient mortality from multivariate non-aligned time series obtained from Children's Hospital Los Angeles.</li></ul> <i>Research Assistant in Robotics</i> (National Science Foundation REU)                      Summer 2011 University of Southern California, Los Angeles, CA. <ul style="list-style-type: none"><li>• Designed a series of modules using the Robot Operating System (ROS) for the <i>Bandit</i> robot. Implemented new routines in C/C++ to teach the robot new vocabulary with a gesture library.</li></ul> <i>Research Assistant in Mathematics</i> Summer 2010 Austin College, Sherman, TX. <ul style="list-style-type: none"><li>• Worked on a GUI application in Java to model "Snell geometries" which define geodesics via Snell's law of optics as part of work in the broader category of staircase metric geometries.</li></ul> <i>Software Engineering Intern</i> Winter 2010 Austin College, Sherman, TX. <ul style="list-style-type: none"><li>• Participated on a team of students in an Agile software engineering course to develop a service part exchange application for Atlas Copco, contributing to system code and architecture.</li></ul>	
TEACHING EXPERIENCE	2014-2015 <i>Teaching Assistant, Artificial Intelligence</i> , University of Toronto. 2013-2014 <i>Teaching Assistant, Mathematical Expression and Reasoning for Computer Science</i> , University of Toronto. Spring 2013 <i>Teaching Assistant, Artificial Intelligence</i> , Austin College.	
SELECTED TALKS AND POSTERS	<i>Siamese Neural Networks for One-shot Image Recognition</i> , to appear at International Conference on Machine Learning, Deep Learning Workshop, Lille, France. (July 2015) <i>Neural Networks for Irregularly Sampled Time Series Data</i> , NSF REU Poster, University of Massachusetts, Amherst. (July 2012) <i>An Integrated Speech-to-Text Parser for a Humanoid Robot</i> , NSF REU Poster, University of Southern California. (August 2011) <i>Minimizing networks in Snell Geometry; the Snell-Steiner criterion</i> , AMS/MAA Joint Mathematics Meetings, New Orleans. (January 2011)	
HONORS, AWARDS, AND MEMBERSHIPS	<i>Presidential Scholar</i> and <i>Dean's List</i> , Austin College. <i>Phi Beta Kappa</i> , <i>Alpha Chi</i> , and <i>Pi Delta Phi</i> , Austin College.	
RELEVANT SKILLS	Technical:                      Python (Numpy/Scipy/Scikit/Matplotlib), Java, C++, Unix, Git, HTML/CSS, LaTeX. Languages:                      English (native), French (advanced).	