

Karan Grewal

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Education

University of Toronto

September 2014 – April 2018

B.Sc., Specialist in **Computer Science**, Major in **Mathematics**

GPA: 3.93 / 4.00

National University of Singapore

January 2017 – May 2017

Visiting Student, Coursework in Computer Science, Philosophy & Chinese

Research Positions

Montréal Institute for Learning Algorithms

May 2017 – present

Research Internship supervised by Yoshua Bengio

Developed an Integral Probability Metric to train Generative Adversarial Nets (GANs) using meta-adversarial training. Our method encourages the critic to follow a bimodal Gaussian distribution and alleviates vanishing gradients and mode collapse. Currently developing a state-of-the-art technique to perform image-to-image comparison via conditional normalization.

Dynamic Graphics Project

September 2016 – present

Part-time Research supervised by Khai Truong

Applied natural language understanding techniques and textual data analysis to discern rude conversational behaviour in social contexts; identified major problems which make this task difficult. Studied traditional sentiment analysis methods in the context of conversational speech.

Publications

Variance Regularizing Adversarial Learning

ICML Workshop 2017, submitted to ICLR 2018 as a Conference Track paper.

Karan Grewal*, R Devon Hjelm*, Yoshua Bengio.

* indicates equal contribution

Industry Experience

Rubikloud Technologies Inc.

May 2016 – September 2016

Internship with Data Engineering Team

Created an internal pipeline to detect patterns and anomalies in client data. Wrote queries to reverse-engineer unspecified promotions offered by various retailers.

Talks

1. Université de Montréal, Montréal Institute for Learning Algorithms
Title: Variance Regularizing Adversarial Learning *September 2017*
 2. Canadian Undergraduate Computer Science Conference
Title: Rudeness Detection in Two-person Conversations *June 2017*
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Notable Awards

Samsung Research Scholarship *2017*
Supports Deep Learning research at Montréal Institute for Learning Algorithms.

Dean's List *2015, 2016, 2017*
Honorable mention for students with GPA greater than 3.50.

President's Scholarship *2014*
Awarded to students entering University of Toronto with average greater than 90%.

Teaching

Teaching Assistant
CSC343H1, Introduction to Databases, University of Toronto *Fall 2016*

Computer Skills

Python, Java, C, SQL, Theano, Lasagne.