

# Christopher Leung

{SOFTWARE} + {ENGINEER · RESEARCHER}

☎ (+647) 838-2033 | ✉ christopherleung99@gmail.com | 🏠 www.christopherleung.ca | 🌐 christopher-g-leung

## Skills

**LANGUAGES** Python, Java, C++, Scala, C, R, Shell Script, SQL, VBA

**TECHNOLOGIES** PyTorch, Tensorflow, Keras, scikit-learn, Storm, FlumeJava, Hadoop, Spark

## Education

### GEORGIA INSTITUTE OF TECHNOLOGY

Candidate for Master of Science in Computer Science

- Accepted as a matriculating student starting Fall 2020.

Online

Enrolled Fall 2020

### STANFORD UNIVERSITY

Candidate for Professional Certificate in Artificial Intelligence

- Stanford Graduate Courses: XCS224N (NLP), XCS224U (NLU)

Online

Sept. 2019-Present

### UNIVERSITY OF WATERLOO

Honours Bachelor of Computer Science

- Relevant Courses: Machine Learning, Artificial Intelligence, Statistical Learning, Deep Learning

Waterloo, ON

June 2019

## Work Experience

### OKTA

Software Engineer

- Exploring, implementing, and adjusting production machine learning models to protect users against account takeover.
- Transforming machine learning research code into production-ready Java code.
- Discovered an algorithm that beats the state-of-the-art anomaly detection algorithm in runtime and memory consumption while maintaining comparable accuracy.
- Identified user typing patterns with deep learning and embeddings using Tensorflow.

Toronto, ON

June 2019 - Present

### GOOGLE

Software Engineer Intern

- Analyzed and improved existing machine learning models to better detect malicious advertisers in Google Search. Impacted billions of users by increasing area under the precision-recall curve by more than 0.1%.
- Implemented a model that quickly responds to new malicious advertising attacks, trained on hundreds of millions of advertiser behavior samples using FlumeJava.
- Explored and implemented optimization and reinforcement learning research.

Mountain View, CA

Sept. 2018 - Dec. 2018

### OKTA

Software Engineer Intern

- Discovered a model that can identify users through typing habits with an accuracy of over 90%.
- Researched new unsupervised machine learning models for improving account takeover detection.
- Integrated a feature collection mechanism into the Okta Single Sign-On product and the data pipeline.
- Presented a proof of concept to stakeholders using data visualization and t-SNE dimensionality reduction.

Toronto, ON

May 2018 - Aug. 2018

### IBM

Software Developer Co-op

- Implemented a mutex-like API to handle concurrent file access requests between multiple servers. Designed a system to pre-empt locks based off a time quantum to account for server failures.
- Implemented a Slack bot using the Slack API to post installer statistics into team Slack channels.

Markham, ON

Sept. 2016 - Apr. 2017

## Projects

### COST-BALANCING CLUSTERING TREE

- Discovered an algorithm for high-dimensional clustering with rewards in error-prone data using a decision tree based method.
- Outperforms k-means on the Heart-Disease-UCI dataset when minimizing exam costs with less model updates.
- Actively working on publishing to a conference.

### ATTENTIONAL NEURAL MACHINE TRANSLATION

- Implemented a neural network-based translation system which translates Spanish to English using PyTorch.
- Achieved a BLEU score of 24 by training a bidirectional LSTM encoder and a unidirectional LSTM decoder with global attention.