

Christopher Leung

{SOFTWARE} + {ENGINEER · RESEARCHER}

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Skills

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

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

Work Experience

OKTA

Toronto, ON

Software Engineer

June 2019 - Present

- 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.

GOOGLE

Mountain View, CA

Software Engineer Intern

Sept. 2018 - Dec. 2018

- 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.

OKTA

Toronto, ON

Software Engineer Intern

May 2018 - Aug. 2018

- Discovered a model that can identify users through typing habits with an accuracy of over 90%.
- 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.

IBM

Markham, ON

Software Developer Co-op

Sept. 2016 - Apr. 2017

- 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.

Education

GEORGIA INSTITUTE OF TECHNOLOGY

Master of Science in Computer Science

In Progress

STANFORD UNIVERSITY

Professional Certificate in Artificial Intelligence

In Progress

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

UNIVERSITY OF WATERLOO

Bachelor of Computer Science, Honours

June 2019

- Relevant Courses: Machine Learning, Artificial Intelligence, Learning Theory, Neural Networks

Projects

LISTENER-REASONING SPEAKER

Research

- Invented a neural learning technique that solves Stanford's Color Reference task with 94.5% accuracy, beating SOTA by 8%.
- Submitted for initial review at *EMNLP'20* as first author with the help of Professor Christopher Potts.

COST-BALANCING CLUSTERING TREE

Research

- Discovered an algorithm for high-dimensional cost clustering 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 *ICLR'21*.

ATTENTIONAL NEURAL MACHINE TRANSLATION

Course

- Implemented a neural network-based translation system which translates Spanish to English using PyTorch.