

Christopher Leung

SOFTWARE ENGINEER · MACHINE LEARNING RESEARCHER

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Skills

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

DATA SCIENCE Tensorflow, Keras, scikit-learn, pandas, SciPy, Matplotlib

DISTRIBUTED TOOLS Storm, Elasticsearch, Flume, Hadoop, Spark

Experience

OKTA

Toronto, ON

Software Engineer, Machine Learning - Security Intelligence Platform

Jun. 2019 - Present

- Improving flexibility of online Machine Learning pipeline with Apache Storm by modularizing data validation, transformation, and model training.
- Releasing a feature that learns user typing habits and reports anomalous behaviors using researched algorithms.

GOOGLE

Mountain View, CA

Software Engineer Intern - Ads Risk

Sept. 2018 - Dec. 2018

- Improved precision-recall curve by more than 0.1% for many existing models to better detect fraudulent advertisers.
- Explored and implemented state-space search and state-of-the-art reinforcement learning algorithms from research papers.
- Designed a modular, distributed infrastructure to work with hundred of millions of data samples using Java Flume.

OKTA

Toronto, ON

Software Engineer Intern - Adaptive Auth

May 2018 - Aug. 2018

- Researched new unsupervised machine learning models for improving account takeover detection.
- Implemented algorithms from machine learning research for experimentation and production environments.
- Integrated a tracking mechanism to collect data into the production data pipeline. Collected millions of samples from users.
- Presented a proof of concept to stakeholders using data visualization and dimensionality reduction techniques.

IBM CANADA

Markham, ON

Software Developer Co-op - Master Data Management

Sept. 2016 - Apr. 2017

- Implemented a Slack bot using the Slack API to post installer statistics into team Slack channels.
- Designed, built, and maintained a data pipeline that automatically tests the product installer by using Java.
- 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.

THE GOAL GETTERS ASSOCIATES

Toronto, ON

Associate Consultant Co-op

Jan. 2015 - April. 2015

- Created a comparison algorithm to detect inconsistency in client billing information.

Projects

HARMONE

Research Project

May. 2017 - Present

- Current research endeavor and large project and inspired by the amazing work done by Google's Magenta team.
- Tackling the problem of AI music composition. Built with many popular Python deep learning libraries.
- Exploring usages of Transformers on different embeddings found in Music Information Retrieval.

LEFTOVERS

Hackathon Project

Dec. 2016

- Built a web app that provides recipes from various popular websites given a list of food ingredients.
- Assisted members with learning new technologies such as HTML5, CSS, and JavaScript.

Education

UNIVERSITY OF WATERLOO

Waterloo, ON

Honours Bachelor of Computer Science

Sept. 2013 - April 2019

- CS Courses: ML, AI, Statistical Learning Theory, Neural Networks, Distributed Systems
- UW Data Science Club Executive (2018-2019)
 - Leader for Neural Networks Workshop: Taught introductory Reinforcement Learning to over 70 people.