

Christopher Leung

SOFTWARE ENGINEER · MACHINE LEARNING RESEARCHER

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Skills

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

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

DISTRIBUTED TOOLS Storm, Flume, Hadoop, Spark

Experience

OKTA

Toronto, ON

Software Engineer, Machine Learning

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.
- Designed an algorithm that beats the anomaly detection state-of-the-art in both runtime and memory consumption.

GOOGLE

Mountain View, CA

Software Engineer Intern

Sept. 2018 - Dec. 2018

- Explored and implemented state-space search and state-of-the-art reinforcement learning algorithms from research papers. Improved precision-recall curve by more than 0.1% for many existing models that detect malicious advertisers.
- Designed a modular, distributed infrastructure to work with hundreds of millions of data samples using Java Flume.
- Collaborated with researchers across many machine learning fields through internal research channels.

OKTA

Toronto, ON

Software Engineer Intern

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

Markham, ON

Software Developer Co-op

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 on a time quantum to account for server failures.

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.

Education

STANFORD UNIVERSITY

Stanford, CA

Artificial Intelligence Professional Certificate

Dec. 2019 - Present

- Graduate-level Courses: CS244N, CS244U

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.