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, 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 anomalistic behaviors using researched algorithms.

GOOGLE — *Mountain View, CA*
Software Engineer Intern - Ads Risk — *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 detects malicious advertisers.
- Designed a modular, distributed infrastructure to work with hundred of millions of data samples using Java Flume.

OKTA — *Toronto, ON*
Software Engineer Intern - Adaptive Authentication — *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 - 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.

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

STANFORD UNIVERSITY — *Stanford, CA*
Artificial Intelligence Professional Certificate — *Sept. 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.