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

Work Experience

Okta *Toronto, ON*
Software Engineer, Machine Learning *Jun. 2019 - Present*
- Translating researched machine learning models into the production codebase.
- Releasing a feature that learns user typing habits and reports anomalistic 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 detects malicious advertisers.
- Designed a modular, distributed infrastructure to work with hundred 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 off a time quantum to account for server failures.

Projects

HarmoNe
Research Project
- Ongoing research endeavour and large project focusing on unsolved research directions in Music Information Retrieval.
- Tackling the problem of AI music composition. Building with many popular Python deep learning libraries.

Low Rank Reconstruction
Research Project
- Created an algorithm to perform a lossy compression on a dataset using a decision tree based method.
- Proven for dataset compression prior to model training while minimizing dataset detail loss.
- Currently working on regularization implications and actively working on publishing to a conference.

Education

Stanford University *Online*
Artificial Intelligence Professional Certificate *Dec. 2019 - Present*
- Enrolled Courses: XCS244N (NLP)

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)