Yun Han Xiao

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Preferred Tools

Python • C/C++ • R •Tensorflow
Docker (Swarm) • Apache Kafka • Java
SciPy/Numpy/Pandas • Javascript
MongoDB • SQL • Apache Zookeeper
PySpark • Hadoop • TCP/IP • Nginx
ARM Assembly (RISC) • VHDL

Education

University of Waterloo
B.Sc in Software Engineering
Minor in Computational
Mathematics
Class of 2017-2022, Waterloo, ON
UW Data Science Club
UW Poker Studies Club
Mathematical Finance Club

Achievements

• 2015
Private Pilot Licence : One of the
65/3000 candidates chosen; Obtained
bursary Transport Canada Private
Pilot Licence at age of 17
• 2014
Glider Pilot Licence :Obtained
bursary for Transport Canada Private
Pilot Licence at age of 16

Coursework

Software Engineering
Introduction to Optimization
Data Abstraction & Implementation
Sequential Programming
Digital Computers
Linear Circuits
Digital Circuits

Self-Taught/Online
Elements of Statistical Learning (Book)
Data Science: Probability (HavardX)
Intro to Machine Learning (Udacity)

Activities
Playing Poker
Reading
Canoeing
Flying

Experience

Intact Financial Corporation | Data Lab Intern
May 2018 – August 2018 | Montreal, QC

- Lead the design and development of a **data modeling pipeline**
- Built an internal library that reduced Cross-Validation run time by more than 5 folds using **sklearn and Dask**
- Integrated a **denoising auto-encoder** for preliminary feature selection on insurance premium data with **Pytorch**
- Re-factored a data modeling code base from R to Python
- Implemented a fault-tolerant and **load balanced infrastructure** using Docker Swarm.

Nuance Communcations Inc. | Software QA Intern
May 2017 – Aug 2017 | Montreal, ON

- Designed and wrote **Atutomated White Box, Black Box and Regression Tests** with **Java (JUnit)**
- Reduced overhead of load testing by around 15% by moving away from **JMeter** to a custom multi-threaded test framework
- Automated server configurations and pipelines for JUnit tests setup and teardown workflow on testing servers

Wedo Services | Software Developer Intern
Jul 2016 – Oct 2016 | Montreal, QC

- Integrated quick quote feature that calculates surface area by coloring on a map to improve customer UX
- Designed and built a **chatbot** using Facebook's Messenger API that quadrupled customer convergence
- Improved a reactive front-end interfaces with **MeteorJS's two-way data binding's protocol (DDP)** over websockets.

Projects

Machine Learning Baseball (M.L.B.) | Predicting MLB games' outcome

- Predicted home win probability given 2 teams and 2 roasters
- Aggregated historical data as vector with home/away players/team stats
- Perform supervised classification using a **support vector classifier** (SVM with Linear Kernel)
- Cross-validation with **Gridsearch**

Corny Volatility | Implied Volatility Analysis on Corn Futures

- Analyzed the effects of the WASDE report on the implied volatility of corn futures.
- Built a **real-time data pre-processing pipeline** using Interactive Brokers' API in C++ with **Apache Kafka** for low-latency message processing to compute implied volatility.

Magic Portfolio | Deep RL Portfolio Optimizer

- Reproduced paper by Jiang et al. on financial portfolio optimizer
- Built a **deep reinforcement learning** agent using **Keras** and data from Poloniex API.
- Predicted a vector of weights to m instruments in portfolio for optimized performance.
- Used a **CNN** of 3 dense layers with **Gradient Descent** Optimizer.