Yun Han Xiao

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experience

Intact Financial Corporation - R&D Team — May - Aug 2018
Data Lab Intern — Montreal, QC

- Led 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 Communications Inc. - Enterprise Div. — May - Aug 2017
Software QA Intern — Montreal, QC

- Designed and wrote **Automated 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 concurrent server setup/tear-down and JUnit pipelines on multiple testing servers

Wedo Services — Jul - Oct 2016
Software Developer Intern — Montreal, QC

- Implemented core feature of surface area estimation algorithm from colored area on maps
- Designed a scalable back-end architecture using **Node, Express, MongoDB.** and **Meteor's DDP protocol**
- Improved the reactive front-end user experience by re-factoring **RESTful APIs** to websockets

projects

Albert, A chatbot butler

- Built a reactive back-end with **Node** , Meteor, Express, MongoDB and Blaze
- Leveraged the Facebook Messenger API to build a **RESTful** server over **webhooks**
- Single handedly designed the state machine that operated as the core logic of chatbot

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

preferred tools

Python • C/C++ • JavaScript • R • Java
gRPC • PyTorch • TensorFlow
Node • React • Express • Meteor
Numpy • Pandas • SQL • MongoDB
Zookeeper • Nginx • Kafka • Hadoop
Docker • MapReduce • ARM Assembly

education

University of Waterloo
B.Sc in Software Engineering,
Computational Mathematics Minor
Class of 2017-2022

- 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

Industry Relevant
Introduction to Optimization
Data Abstraction & Implementation
Sequential Programming
Digital Computers
Linear Circuits
Digital Circuits

Self-paced book/online
Elements of Statistical Learning;
Data Science: Probability (HavardX);
Intro to Machine Learning (Udacity);

activities

Leisure
Playing Poker • Nature Canoeing • Flying Glider and Cessnas
Community
Co-founded a non-for-profit organization to help raise awareness of Kawasaki Syndrome, a rare autoimmune disease that affects kids.