Charlie Lin

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SKILLS

Machine Learning & Data Science
Algorithms & Data Structures
Computer Vision
Full Stack Web Development
Object-Oriented Programming
Algorithmic Trading
Public Speaking

TECHNOLOGIES

LANGUAGES
Java • Python • C++ • C#
SQL • Matlab • Solidity

MACHINE LEARNING
Tensorflow • Scikit-Learn • Keras
OpenCV • Pandas • D3.js

WEB TECHNOLOGIES
JavaScript • NodeJS • React
Angular • Mongo • AWS • .NET
Flask • HTML5 • CSS3 • jQuery

SYSTEMS
OSX • Linux • PC • Git • Bash

AWARDS

Top 10 Worldwide TechCrunch Disrupt
1st/1000 Hack the North (Finalist)
1st/400 Hack NYU (Startup)
1st/130 Waterloo EngHack (ML)
1st/130 Shopify Case Competition
Finalist /55 Airbnb Consulting Comp

EDUCATION

WESTERN UNIVERSITY & IVEY BUSINESS SCHOOL
BESc - Software Engineering
HBA - Business Administration
April 2021 | London, ON

COURSEWORK

Algorithms (UC San Diego)
Machine Learning (Stanford)
Deep Learning (Google)
Intermediate C++ (Microsoft)

ACTIVITIES

Private Pilot License Candidate
Provincial Soccer Referee & Mentor
RHHS Varsity Soccer Captain
Canadian National Lifeguard
RCM Level 8 Pianist

EXPERIENCE

WESTERN UNIVERSITY | Machine Learning Researcher
June 2018 – Present | London, ON

- Working under Prof. J Yang to perform **topology optimization** on hyperbolic acoustic metamaterials using a pixel-wise **image segmentation** method
- Implemented a **convolutional neural net** in **Tensorflow & Keras** that correctly optimized macroscopic quantum wave propagation with > 99% accuracy

FIRMWATER INC | Full Stack Software Developer
May 2018 – August 2018 | Toronto, ON

- Crafted a **React.js & RESTful API** system using **ES8** modular programming to automate client processing which cut monthly accounting time by 32%
- Deployed custom Youtube player in a **.NET MVC** LMS (e-learning platform) with **SQL** stored procedures & **Node.js** wrapper for user progress tracking

EMPLOYO.IO | Co-Founder, Lead Engineer
February 2018 – Present | Toronto, ON

- Launched a **MEAN stack** intern exclusive job board with an INSEAD mentor
- Engineered **rule-based elasticsearch** algorithm to save HR 90 minutes / hire
- Guided developer team to create a **Word2vec** job recommendation engine

NORTH SOUTH MANAGEMENT | Business Data Analyst
January 2018 – April 2018 | Toronto, ON

- Performed strategy pitches for TSXV: BEER to bolster upcoming IPO value
- Reduced retail predictive model error by 40% with **PCA & ridge regression**
- Advised niche wine production (8% CAGR) via **sklearn feature engineering**
- Clustered 5000 product reviews with **tf-idf & k means** to drive sales strategy

PROJECTS

OURBLOCK | Python / AWS / Solidity / D3

- Pitched serverless community safety solution at **Disrupt SF18** to thousands
- Trained **support vector machine** to classify & rank crime with 97% accuracy
- Applied **AWS Lambda**, **Ethereum**, & **Google Maps** for real time data sharing

PHORMATICS | Jupyter Notebook / Flask

- **Computer vision** gym trainer using **pose estimation** to critique workout form
- Designed custom **cloud computing** flask architecture with **WebRTC** stream

BATTLE TETROMINO | Java

- Applied low-latency websockets to a multiplayer Tetris game & chat room
- AI trained with a **genetic algorithm** using supervised heuristic optimization

LEADERSHIP

FOUNDERS NETWORK | VP Education   Since September 2017

- Hosting workshops & writing curriculum on machine learning and other CS topics for hundreds of students as part of the largest tech club on campus
- Acquired $11K from IBM / CIBC for Canada's largest tech case competition
- Authored case study by testing viability of IBM Watson using the **Java SDK**

MUSTANG CAPITAL | Quant Analyst   Since October 2018

- Developing smart beta trading strategies using **Python** for a $230,000 fund