Charlie Lin

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SKILLS

Machine Learning
Web Development
Data Science & Analytics
Algorithms & Data Structures
Object-Oriented Programming
Financial Modelling
Public Speaking

TECHNOLOGIES

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

FULL STACK
JavaScript • NodeJS • React
Angular • Mongo • AWS • .NET
Flask • HTML5 • CSS3 • jQuery

MACHINE LEARNING
Tensorflow • Scikit-Learn • Keras
Jupyter Notebook • Pandas • D3

SYSTEMS
OSX • Linux • PC • Git • Bash

EDUCATION

WESTERN UNIVERSITY
Software Engineering
April 2021 | London, ON

*Advanced Entry Opportunity to **Ivey Business School** for an Engineering & Business Dual Degree*

COURSEWORK

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

AWARDS

1st/400 Hack NYU (Startup)
1st/130 Waterloo EngHack (ML)
1st/130 Shopify Case Competition
4th/35 Western Engineering Comp
Finalist /55 Airbnb Consulting Comp
Semi-Finalist /340 1220 Case Comp

ACTIVITIES

Private Pilot License Candidate
RHHS Varsity Soccer Captain
Grade 6 OSA Referee & Mentor
Canadian National Lifeguard
RCM Grade 8 Pianist

EXPERIENCE

FIRMWATER INC | Full Stack Software Developer
May 2018 - Present | Toronto, ON
- Crafted a **React & RESTful API** system which cut accounting time by 32%
- Deployed custom Youtube player in a **.NET MVC** LMS (e-learning platform)
- Created **Node backend / SQL** stored procedures for various SaaS products

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 **fully-convolutional neural net** in **Tensorflow & Keras** that correctly optimized macroscopic wave propagation with > 99% accuracy

DEVU ↗ | Co-Founder & Lead Engineer
Feb 2018 – Present | Toronto, ON
- Launched a **MEAN stack** job board w/ an INSEAD Startup Professor mentor
- Engineered **rule-based elasticsearch** algorithm to save HR 90 minutes / hire
- Guiding 3 developers to create a **Word2vec** model for resume classification

NORTH SOUTH MANAGEMENT | Business Data Analyst
Jan 2018 – April 2018 | Toronto, ON
- Performed strategy pitches for TSE: 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 / Solidity
- Crime report system using **AWS & Ethereum** to connect civilians for police
- Trained **Tensorflow** crime classifier / filter using **bag-of-words & stemming**
- Applied **A* & triangulation** algorithms on Google Maps to plan safe paths

PHORMATICS ⊙ | Jupyter Notebook
- **Computer vision** gym trainer built to lead workout sessions & critique form
- Designed custom **cloud computing** flask architecture & deviation algorithm to evaluate **pose estimation** via a CNN with real-time client **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 Sept 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**

COMMUNITECH | Campus Ambassador   Since May 2018
- Directing the largest Canadian tech accelerator's Code to Win competition