

Dave Scott

MACHINE LEARNING ENGINEER · DATA SCIENTIST

Zijing Apartment 20, Tsinghua University, Beijing 100084, P. R. China

☎ (+86) 135-5220-1174 | ✉ davejscott@shaw.ca | 📷 davejscott | 🌐 davejscott

Education

University of Alberta

Edmonton, Canada

M.Sc. IN COMPUTER PROCESS CONTROL ENGINEERING · GPA 3.8/4.0

Sep. 2017 - Current

- Received **Alexander Graham Bell Canada Graduate Scholarship** – the **highest** level of scholarship for a Canadian Master's Scholar, **14 additional Awards** relating to Research in Machine Learning, Leadership and Mentorship

University of Alberta

Edmonton, Canada

B.Sc. IN CHEMICAL ENGINEERING, CO-OP PROGRAM · GPA 3.7/4.0

Sep. 2012 - Apr. 2017

- **Capstone** Design Project, **1st Place, 8 additional Awards** relating to Written and Oral Communication, Leadership, Academic Achievement

Summary

Driven and results-oriented M.Sc. Candidate graduating Fall 2019 with a keen interest in data science and machine learning. Deep expertise in developing machine learning algorithms for time-series applications that are utilized in industrial processes. An effective solutions-oriented developer, utilizing Python, RStudio, MATLAB, and TensorFlow. More than 2 years of work experience in adaptive and agile environments creating innovative applications for software engineering, with Computer Vision, AI, Natural Language Processing, and Deep Learning experience.

Experience

Tsinghua University

Beijing, China

MACHINE LEARNING RESEARCH ENGINEER - MASTER'S EXCHANGE

Feb. 2019 - Current

- Identified a previously unsolved data science problem for Slow Feature Analysis (SFA) ML algorithm in which it was incapable of utilizing non-stationary time series data to generate insights from processes that suffer from not having a constant mean and variance.
- Programmed fully automated modelling and process monitoring pipelines (Scikit-learn, Tensorflow, MATLAB), including backpropagation algorithms and intelligent algorithm initialization.
- Solved problem by developing a first-of-its-kind Probabilistic SFA ML Algorithm that utilizes both non-stationary and stationary process data for industrial process monitoring (MATLAB, Python), identifying process faults 20% faster and raising 35% less false alarms when compared with the Principal Component Analysis (PCA) ML algorithm.

University of Alberta

Edmonton, Canada

COMPUTER & MACHINE LEARNING RESEARCH ENGINEER

Sep. 2018 - Feb. 2019

- Re-engineered Pump Fault Analysis Software (Python) by creating a GUI for end-user to interact with software and identify faults.
- Implemented data mining and machine learning program (Python, C++) for a Cloud Control System that contained 5000 variables.

Schlumberger Limited

Tulsa, USA & Calgary, Canada

DATA ANALYTICS FIELD ENGINEER, INTERN

Jun. 2018 - Jul. 2018

- Developed ML solution that used real-time vibration and GPS data to detect 10 drilling faults, ensuring efficient operations and protecting assets.
- Formulated and launched IoT program that connected microprocessors to satellites, improving IoT links and saving \$100,000 USD in lost time.

Canadian Natural Resources Limited

Calgary, Canada

DATA SCIENCE & CONTROLS ENGINEER, CO-OP STUDENT

May. 2016 - Dec. 2016

- Forecasted and modeled capital expenditures of 80 capital projects into models and graphs (R & SQL), delivering KPIs to senior management.
- Initiated and programmed Project Capital Expenditures Software (VBA), streamlining required time to update capital expenditures by over 30%.

Hackathons and Data Science Competitions

2019 **1st Place**, Tsinghua University and UNSW Data Science Competition

Beijing, China

2019 **1st Place**, Tsinghua University ARM Internet of Things (IoT) Hackathon

Beijing, China

Interesting Experiences

Rapid Fire Controller e-Commerce Business

Edmonton, Canada

CO-FOUNDER

April 2009

- When I was 13, I started my first eCommerce business utilizing soldering, circuitry, and electrical engineering principles. I modified Xbox 360 hardware on each controller that made players more competitive than their peers. Finally, I sold my products on eBay, grossing over \$5,000 dollars USD in sales in one year.