

# Dave Scott

MACHINE LEARNING ENGINEER · DATA SCIENTIST

Edmonton, Alberta, Canada

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## 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
- Master's Thesis: **Novel industrial automation machine learning algorithm developed to predict faults on electric submersible pumps**

### 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 machine learning and data science. Deep expertise in developing machine learning algorithms for time-series applications. An effective solutions-oriented developer, utilizing MATLAB and Python. More than 2 years of work experience in adaptive and agile environments creating innovative applications, with DL, CV, and AI experience.

## Experience

### Tsinghua University

Beijing, China

MACHINE LEARNING RESEARCH ENGINEER - MASTER'S EXCHANGE IN CHINA

Feb. 2019 - Aug. 2019

- 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.
- 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.
- Programmed automated pipelines (Scikit-learn, Tensorflow), including backpropagation algorithms and intelligent initialization strategy.

### University of Alberta

Edmonton, Canada

INDUSTRIAL AUTOMATION & 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) 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), 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**, UNSW Data Science Hackathon
- 2019 **1st Place**, Tsinghua University and UNSW Data Science Hackathon
- 2019 **1st Place**, Tsinghua University ARM Internet of Things (IoT) Hackathon

Sydney, Australia

Beijing, China

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.