Dave **Scott**

Machine Learning Engineer · Industrial Automation Specialist

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*

- Recieved **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 industrial automation. 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 uncapable 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	*Sydney, Australia*
2019	**1st Place,** Tsinghua University and UNSW Data Science Hackathon	*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.