Dave **Scott**

MACHINE LEARNING ENGINEER · DATA SCIENTIST

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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 Leadership, Mentorship, Academic Achievement

University of Alberta	*Edmonton, Canada*
B.Sc. in CHEMICAL ENGINEERING · GPA **3.7**/4.0	*Sep. 2012 - Apr. 2017*

- Capstone Design Project, **1st Place**, Graduated with Distinction, **8 additional Awards** relating to Communication, Leadership, Academic Achievement

Work Experience

Tsinghua University	*Beijing, China*
MACHINE LEARNING ENGINEER - MASTER'S EXCHANGE	*Feb. 2019 - Current*

- Solved a previously-unsolved data science problem by developing a robust signal-processing Machine Learning algorithm (MATLAB, Python), with direct industrial applications for >5 industries.
- Derived a novel statistics formulation for non-stationary and stationary process data that identified and detected faults 20% faster and raised 35% less false alarms than the PCA, CVA, and PLS multivariate statistical process monitoring methods.
- Built fully automated modelling and monitoring pipelines (Scikit-learn, Tensorflow, MATLAB) for industrial process data including backpropagation algorithms and intelligent model initialization.

University of Alberta	*Edmonton, Canada*
COMPUTER & MACHINE LEARNING RESEARCH ENGINEER	*Sep. 2018 - Feb. 2019*

- Developed fault detection software to analyse pump faults, creating a simple GUI interface for end-user to interact with the software.
- Managed a client project to implement data mining and machine learning pipeline (KnowledgeNet Analytics, C++) for a Cloud Control System that contained over 5000+ process variables.

Schlumberger Limited	*Tulsa, USA & Calgary, Canada*
DATA ANALYTICS FIELD ENGINEER, INTERN	*Jun. 2018 - Jul. 2018*

- Analysed process data from drilling measurement tools to detect 10 drilling faults and provided adjustments for engineers, decreasing the required time for the drilling operation.
- Diagnosed and designed IoT disconnections, delivering solutions for inefficiencies and saving the client over $150,000 USD in lost time, while enhancing site communication and safety.

Canadian Natural Resources Limited	*Calgary, Canada*
DATA SCIENCE & CONTROLS ENGINEER, CO-OP STUDENT	*May. 2016 - Dec. 2016*

- Forecasted and modelled project progress of 80 capital projects into economic models and graphs (RStudio) to deliver key performance indicators for projects to senior management.
- Created reporting and analytics software (VBA), reducing required time to upload project updates for project managers by over 30%.

Canadian Natural Resources Limited	*Fort McMurray, Canada*
PROCESS ENGINEER, CO-OP STUDENT	*Jan. 2015 - Aug. 2015*

- Optimized the operation of a 125,000 bbl. /d synthetic crude oil upgrader by creating data analytics tools to detect process faults.
- Resolved savings of chemicals by over 25% by creating a cross-validation algorithm streamlining data transfer utilizing SQL from PI Datalink, saving CNRL over $400,000 CAD a year.

Hackathons and Data Science Competitions

INTERNATIONAL

2019	**1st Place**, Tsinghua University and UNSW Data Science Competition	*Beijing, China*
2019	**1st Place**, Tsinghua University Internet of Things (IoT) Hackathon	*Beijing, China*

DOMESTIC

2018	**Leadership Award**, International Society of Automation, World Student Games	*Calgary, Canada*
2018	**2rd Place**, International Society of Automation, Edmonton Student Games	*Edmonton, Canada*

Interesting Experiences

Rapid Fire Controller e-Commerce Business
Edmonton, Canada

Co-founder
April 2009

- At age 14 I started my first eCommerce business. I modified Xbox 360 controllers in bulk using circuitry and electrical engineering principles, to make players more competitive than their peers.
- I marketed my products locally on social media and as well sold them on eBay, Grossing over $5,000 dollars USD in sales in less than one year.

Extracurricular Activities

Indigenous Engineering Students' Association
Edmonton, Canada

Co-Founder & Mentor
Sep. 2017 - Current

- Developed a student group to connect Indigenous students and support them in becoming exceptional engineers and role models in their communities. the society focusing on software engineering and building network on and off campus.
- Expanded student group from 3 to 25 members by networking with Indigenous students in the engineering faculty.

International Society of Automation
Edmonton, Alberta

Co-President - University of Alberta
May 2018 - Dec. 2018

- Created the ISA Edmonton Student Consulting Competition engaging 40 students in the inaugural challenge for 4 months to develop 8 solutions for industrial problems while collaborating with industry professionals.

The Association of Professional Engineers and Geoscientists of Alberta
Edmonton, Alberta

Elementary School Science Volunteer
Sep 2017 - Current

- Delivering bi-weekly engagements for school children aged 4-12 with hands-on experiments related to science, technology, engineering, and math to develop their curiosity and desire to innovate.