

Andrew Andrade

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Skills and Tools

Development

Comfortable: Python • C/C++ • MATLAB

Familiar: Bash • HTML/CSS • Java

Visualization

Seaborn • ggplot2 • Tableau

RShiny • D3 • Tibco

Data Management

MySQL • PostgreSQL • MongoDB

Data Analysis

SQL • Hive • Data SciPy Stack • R

MapReduce • Pig • Spark

Machine Learning

StatsModels • scikit-learn • XGBoost

NLTK • gensim • OpenCV • dlib

Operations Research

Optimization • Real Options Valuation

Forecasting • Predictive Causality

Stochastic models • Simulation

MISC / Favourite Tools

VM /servers • tmux • lpython • Rstudio

 • zsh • L^AT_EX • git • GCC • Chef • 

Hobbies and Interests

        

Education

University of Waterloo

Honours **Mechatronics Engineering**

Management (Data) Science Option

2011-2016 (Expected)

Summary

- Demonstrated strong abilities in applying analytics in product design/usage & industrial applications
- Passionate about new technology, product design and decision making under uncertainty
- 4+ years experience in conducting quantitative research, data analysis and visualization

Relevant Experience

PetroPredict | Tech. Co-founder

Canada, & Singapore, May 2014 - Present

- Deployed web app. which predicts risk of failure in 62,000+ pipelines & aids in scheduling maintenance.
- Web app. included data integration, visualization & real time reporting/alerts using machine learning.
- Implemented novel method for imputing missing data which increased cross validated **MCC** by 0.24.

Facebook | Manufacturing Intern

USA & China, Jan 2014 - April 2014

- Logged server data (company wide) using **Chef** and studied failure using **Hive** applying Pareto analysis.
- Identified hard drive card as leading failure and deployed testing tool in China saving \$1.4MM / factory.

PetroCanada (Suncor) | Production Intern

Calgary, Sept 2012 - Dec 2012

- Analyzed oil and gas production data & presented visualization tool integrating disparate data sources.
- Forecasted oil production and applied optimization techniques to improve recovery factor by 12.5%.

Innovative Membrane Technology | Mechanical Intern

Toronto, Jan 2012 - Apr 2012

- Prototyped data-driven manufacturing designs for yield improvement of a natural gas filter product.

Projects & Publications

DataScienceGuide.github.io | MSCI 723: Big Data Analytics Course Notes

- Running graduate data science course: visualization, clustering, regression, classification, association, recommendation, model evaluation, stats models, MapReduce, running servers, & many more topics!

AutoBike | Self Driving Autonomous Bicycle funded by MIT in Singapore (smart.mit.edu)

- **Published** a self driving bicycle & mobility on demand platform (think self-driving Uber/taxi): [poster](#)
- Implemented path finding using a multi-heuristic **A*** algorithm and monocular computer vision.

PaperScrapper | Topic Modeling for Emperical Literature Review

- Built a framework to identify topics of published oil and gas papers to aid in literature review.
- Scraped 117 000+ academic papers, munged meta-data & applied topic clustering (latent semantic analysis), document classification and topic association of publications: [technical talk](#)

Achievements and Awards

Hackathon: 1st at Facebook's OpenCompute.org and BeMyApp Factory Hackathon (California)

Competition: 2nd Place Dropbox AI challenge, MongoDB Award (LAHacks) 2x Top 25% Kaggle finishes

Academics: Best overall 1st year student, Highest Class Rank: 1, PCSS Alumni Excellence Award

Research: 3rd in SPE Canada Graduate Research, 2x Industrial Research Award, Undergrad Research Award

Leadership: Emery-Dufault & Canadian Intern of the year (2014), Stanford Flemming Technical Speaking