Andrew Andrade

andrew@andrewandrade.ca
andrewandrade.ca/cv
andrewandrade.ca/blog

Skills and Tools

Development
Comfortable: Python • C/C++ • MATLAB
Familiar: Bash • HTML5/CSS• Java

Visualization
Seaborn • ggplot2 • Tableau
RShiny • D3• Tibco

Data Management
MySQL • PosgreSQL • 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 • Ipython • Rstudio
• zsh • LaTeX• **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 & 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.

PaperScraper | 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