DARRELL AUCOIN

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Relevant Work Experience

Machine Learning Researcher, Interdata Laboratories (Datalogue), Montreal, QC. May 2017-Aug 2018

- Researched, trained, and deployed Machine Learning models to help automatically prepare data
- Designed machine learning models that will become a product/service:
  - Segmentation machine learning model that breaks a string into it's components
  - Anomaly detection for text columnar data using word and character embeddings
- Improved existing machine learning models:
  - Carried out experiments on using different character mappings for character-wise Convolutional Neural Network helping to increase classification accuracy of models
  - Cleaned data using SQL, and Apache Spark
- Experimented with various machine learning models:
  - Created models designed to help training classifiers when working with noisy data (internship project)
  - Created a model for classifying whole columns of text data
- Investigated layer activation of Neural Networks, helping Datalogue understand its models better

Software Adviser, Statistical Consulting Centre, University of Waterloo, Waterloo, ON. 2015

- Provided software advice on R, SQL, and SPSS for graduate students

Research Experience

Undergraduate Research Assistant, Shoja'eddin Chenouri: University of Waterloo. May-Aug 2015

- Worked with Apache Spark on various data projects

Undergraduate Research Assistant, Shoja'eddin Chenouri: University of Waterloo. May-Aug 2014

- Investigated and wrote supplementary material on various Big Data Tools

Data Science Skills

Modelling: Studied various machine learning and statistical models through Masters in Applied Computing and Bachelor of Math in Statistics. I also created various models for Datalogue.

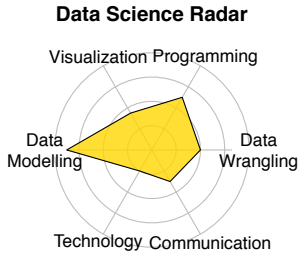
Data Wrangling: Cleaned data related to projects using SQL, Spark, R and Python.

Communication: Made various presentations to classes, clubs, and conferences.

Visualization: Taken a statistics course on Data Visualization.

Programming: Experienced in various data analytics programming languages: R, Python, Matlab, and Apache Spark.

Technology: Built a small Hadoop cluster using single board computers.



Education

Master of Science in Applied Computing, Data Science Concentration 2018

- *University of Toronto, Toronto, Ontario*.
  Relevant Courses: Topics in ML: Interference & Generative Models, Algorithms for Genome Sequence Analysis, Probabilistic Learning and Reasoning, Fundamentals of Statistical Genetics

Bachelor of Mathematics with Major in Statistics and Computational Math with CS Minor 2015

- *University of Waterloo, Waterloo, Ontario*.
  Relevant Courses: Inference for Big Data, Classification (Machine Learning), Data Visualisation, Function Estimation, Data Types (Python), Object-Orientated Programming (C++), Databases (SQL), Spatial Data Analysis, Longitudinal Data Analysis, Computational Linear Algebra

Projects and Extracurricular Activities

Automatic Data Cleaning: Investigated a model to correct noisy labels in training data. 2016

- Probabilistic Learning and Reasoning Course Project

Imputation of Missing Data using Gaussian Mixtures: Investigated MCMC gaussian mixture models for data imputation. 2016

- Differentiable Inference and Generative Models course Project

Review of Genotype Imputation Algorithms: Compared various genotype imputation algorithms. 2016

- Algorithms for Genome Sequence Analysis course Project

Statistics Club President, University of Waterloo 2014-15

- Lead a team in providing various statistics related educational and social activities for fellow students.
- Presented tutorials on SQL, Hadoop, and Big Data (videos up on YouTube Channel "UW Stats Club").

Small Hadoop Cluster: Created a small Hadoop cluster using single board computers. May 2015
Funded by the Math Endowment Fund (MEF).

Determine Influence in Social Media: Ranked Twitter users using machine learning algorithms 2014

- Classification Course Project

Honours and Awards

NSERC Undergraduate Student Research Award: Natural Sciences and Engineering Research Council of Canada. 2015

- Received 2 awards for work underneath a supervisor at University of Waterloo 2014
  (see Research Experience)

Winston and Diana Cherry Award in Statistics: University of Waterloo. 2013

- For highest mark of 98 in a statistics course (Computational Inference)

Jason Lang Scholarship: Student Aid Alberta. 2012

- For outstanding academic achievements in undergraduate studies

Dean's List: University of Alberta. 2012

Honourable Mention: MCM: The Mathematical Contest in Modelling. 2012