Dylan Labatt Randle

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EDUCATION

- **Harvard University, School of Engineering & Applied Sciences** — Cambridge, MA
  Master of Science in Data Science; GPA: 4.0 — *Sep 2018 – Present*
  - **Awards**: IACS Scholarship

- **University of California at Berkeley, College of Engineering** — Berkeley, CA
  Bachelor of Science in Industrial Engineering & Operations Research; GPA: 3.9 — *Sep 2012 – May 2016*
  - **Awards**: High Honors at Graduation, Frank Kraft Award for Freshmen, Dean's List (2012-2016), Phi Beta Kappa

RELEVANT EXPERIENCE

- **Amazon Robotics, LLC** — Boston, MA
  Data Science Intern — *Jun 2019 - Aug 2019*
  - **Data Engineering**: Built fully-automated, scalable data pipelines for big data queries with Spark & Hive on AWS Elastic Map Reduce
  - **Data Science**: Developed tree and neural network models for product performance predictions; additionally incorporated interpretability methods (ALE, LIME, Shapley values) and uncertainty quantification
  - **Data Product**: Prototyped a user interface in IPython and Jupyter for delivering models to customers to empower their decision-making

- **Harvard University** — Cambridge, MA
  Graduate Researcher — *Nov 2018 – Present*
  - **GANs for Physics**: Researching methods for training generative adversarial networks (GANs) for solving differential equations in an unsupervised fashion
  - **Neural Networks in Turbulence**: Researched and developed neural network methods for unsupervised learning of solutions to Reynolds-Averaged Navier Stokes (RANS) equations

- **Hubdoc, Inc. (acquired by Xero Ltd.)** — Toronto, Canada
  Lead Data Scientist — *Jan 2017 – Jul 2018*
  - **Deep Learning**: Developed and deployed production deep learning system using LSTMs & CNNs for information extraction (i.e. entity recognition and classification) from financial documents. Extraction time reduced from 24 hours to 5 seconds; cost savings estimated at $2MM/year. Tech stack: Python, Keras, Postgres, Ansible, AWS
  - **Data Science**: Conducted business and engineering analyses: e.g. prediction of labor requirements and anomaly detection of web scrapers. Wrote reports and built data visualizations (with D3.js) for company intranet
  - **Management**: Regularly presented results and recommendations to C-suite. Integral in crafting team strategy and roadmap. Coordinated with product and marketing teams. Involved in fundraising and presentations to investors. Delivered machine learning lecture to 60+ people

- **Taylor Statten Camps** — Algonquin Provincial Park, Canada
  Canoe Trip Guide — *Summers 2015, 2016*
  - **Canoe Trips**: Led 36- and 50-day canoe trips through remote Canadian wilderness. Responsible for groups of 7 teenage boys. In charge of planning, safety, and navigation.
  - **Maintenance**: Leader of roofing crew. Built new dock, fixed and renovated cabins.

- **Bank of Montreal, Capital Markets** — Toronto, Canada
  Financial Products Analyst — *Summer 2014*
  - **Fixed Income**: Conducted analyses of various debt products (swaps, swaptions, ABS, MBS). Wrote custom C# algorithm to analyze relationship between delta-hedging frequency and returns for Canadian swaptions; found possible trading opportunities
  - **Sales & Trading**: Compiled daily summaries of trading activity. Reviewed and analyzed sales product pitches. Supported both sales and trading with various data analyses

Relevant Projects

- **Twitter Troll Classification**: Project achieving 96% accuracy classifying Twitter trolls using tweets scraped from accounts indicted for meddling in the 2016 U.S. elections
- **Automatic Differentiation**: Python package implementing automatic differentiation, supporting both forward and reverse modes; stochastic gradient descent and Adam optimizers implemented as example use-case
- **Bayesian GANs**: Paper review, implementation, and demo of Bayesian generative adversarial networks (GANs)
- **Tensorflow on Spark**: Training neural networks on a 1.5 TB dataset with Tensorflow on a Spark/Hadoop cluster with AWS Elastic Map Reduce

Programming Skills

Languages: Python (numpy, pandas, scikit-learn, pytorch, keras, pymc3), SQL, C/C++
Technologies: AWS (EC2, EMR, S3), PySpark, OpenMP, Git