Dylan Labatt Randle

dylanrandle.github.io

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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*
- **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*

Experience

- **Institute of Applied Computational Science, Harvard University** — Cambridge, MA
  Research Assistant — *Nov 2018 – Present*
  - **Generative Adversarial Networks**: Researching GANs for generative modeling of solutions to ordinary and partial differential equations.
  - **Computational Fluid Dynamics**: Researched neural network methods for turbulence modeling; demonstrated solutions to Reynolds-Averaged Navier Stokes equations.
- **Hubdoc, Inc. (acquired by Xero Limited)** — Toronto, Canada
  Head Data Scientist — *Jan 2017 – Jul 2018*
  - **Production Deep Learning System**: Developed and deployed production deep learning system using LSTMs & CNNs for information extraction (i.e. entity recognition and classification) from financial documents. Greatly reduced labor costs ($1-3MM/year) and increased speed of service (14,000x for 80% of documents). Tech stack: Python, Keras, Postgres, Ansible, AWS.
  - **Business Analytics**: Conducted business analyses as needed: e.g. capacity planning of labor, anomaly detection of web scrapers, and prioritization of scraper maintenance. Built reports and data visualizations for 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.
- **Bank of Montreal, Capital Markets** — Toronto, Canada
  Financial Products Analyst — *Summer 2014*
  - **Fixed Income Derivatives**: 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 & trading product pitches. Supported Sales & Trading with various data analyses.

Projects

- **Automatic Differentiation (github.com/dylanrandle/autograd)**: Python package implementing automatic differentiation (forward and reverse mode). Additionally implemented gradient-based optimizers and provided extensive documentation.
- **Twitter Troll Classification (dylanrandle.github.io/troll_classification)**: Achieved 96% accuracy in classifying tweets as trolls, using a dataset of Twitter handles indicted for meddling in the 2016 U.S. presidential election.

Programming Skills

- **Languages**: Python (numpy, pandas, scikit-learn, pytorch, keras, pymc3), SQL, C/C++, Javascript
  Technologies: AWS, Spark, OpenMP, MPI, Git