Dylan Labatt Randle

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Education

- **Harvard University, School of Engineering & Applied Sciences** — Cambridge, MA
  Master of Science in Data Science — *Sep 2018 – Present*
  - **Distinctions**: Scholarship in Applied Computation
- **University of California at Berkeley, College of Engineering** — Berkeley, CA
  Bachelor of Science in Industrial Engineering & Operations Research — *Sep 2012 – May 2016*
  - **Distinctions**: High Honors, Phi Beta Kappa

Experience

- **Amazon Robotics** — Boston, MA
  Data Science Intern — *Jun 2019 - Aug 2019*
  - **Data Engineering**: Built automated and highly scalable data pipeline for big-data queries, cleaning, transformation, and storage (∼1 trillion rows). Significantly sped-up, simplified, and reduced complexity of data collection and processing. Tools: Python, Apache Spark, AWS
  - **Data Science**: Developed modular machine learning package for internal use. Built simple API for feature selection, training, tuning, and testing. Implemented interpretable visualizations (e.g. PDP, ALE, SHAP) for model explanations. Greatly reduced complexity and increased speed of development of models. Wrote extensive documentation and published to internal repository. Tools: Python, AWS
  - **Data Product**: Demonstrated value of machine learning package on a broad set of important tasks for the company. Wrote white paper demonstrating efficacy on previously challenging problems. Presented project to teams from across the organization.
- **Harvard University** — Cambridge, MA
  Researcher & Teaching Fellow — *Nov 2018 – Present*
  - **Solving Differential Equations with Neural Nets**: Researched methods for training neural networks to solve differential equations. Developed method for parameterizing the loss function as a generative adversarial network, leading to orders of magnitude lower error. Developed sampling algorithm leading to improved convergence.
  - **Introduction to Data Science**: Prepared lectures on boosting, neural networks, gradient descent, backpropagation and regularization. Visualizations lauded by students and lecturers for their clarity and informativeness.
- **Hubdoc** — Toronto, Canada
  Data Scientist — *Jan 2017 – Jul 2018*
  - **Production Deep Learning**: Developed and deployed production deep NLP system using LSTMs & CNNs for entity extraction and classification of financial documents. Models trained on ∼10 terabytes of text and image data. Reduced extraction time from ∼24 hours (manual) to < 5 seconds with highly scalable, asynchronous inference pipeline. Significant cost savings estimated at ∼10% of revenue. Tools: Python, Tensorflow-Serving, AWS.
  - **Data Science**: Conducted core business and engineering analyses: e.g. optimization of headcount by modeling marginal impact of labor on product performance and anomaly detection from application logs. Wrote white papers and deployed data visualizations to intranet. Tools: Python, D3.js.
  - **Leadership**: Regularly presented results and recommendations to executives. Integral in crafting machine learning strategy and roadmap. Involved in fundraising and presentations to investors. Delivered multiple machine learning lectures to audiences ranging from 50 to 100 people.
- **BMO Capital Markets** — Toronto, Canada
  Financial Products Analyst — *Summer 2014*
  - **Fixed Income Derivatives**: Conducted analyses of various debt products (swaps, swaptions, ABS, MBS). Developed algorithm to model relationship between frequency of delta-hedging and expected returns for Canadian swaptions. Discovered potential trading opportunities. Tools: C#, MySQL.
  - **Sales & Trading**: Compiled summaries of daily sales & trading activity. Reviewed and analyzed investment pitches. Supported team with data collection and analyses. Tools: Bloomberg Terminal, Excel

Technical Skills

Expert: Python (numpy, pandas, scikit-learn, pytorch, keras, xgboost)
Proficient: AWS (EC2, EMR, Athena, S3, SageMaker), Apache Spark, Git, Jupyter, LaTeX, SQL, C

Research & Projects

Please see https://dylanrandle.github.io/.

Awards & Recognitions

- **Scholarship in Applied Computation:** $20,000 scholarship awarded to students for research in Applied Computation (Harvard University).
- **Phi Beta Kappa:** Inducted into national honors society, recognition for academic achievement (UC Berkeley).
- **High Honors at Graduation:** Awarded to top 10% of graduating class (UC Berkeley).
- **Dean's Honors:** Awarded to top 10% of class each semester, held throughout tenure (UC Berkeley).
- **Frank Kraft Award for Freshmen:** Awarded for perfect (4.0) GPA in freshman year (UC Berkeley).