DYLAN LABATT RANDLE

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EDUCATION

Harvard University, School of Engineering & Applied Sciences — Cambridge, MA
M.S. Data Science — *May 2020 (Expected)*
Applied Computation Scholarship, Special Distinction in Teaching

University of California at Berkeley, College of Engineering — Berkeley, CA
B.S. Industrial Engineering & Operations Research — *May 2016*
High Honors, Dean's Honors, Phi Beta Kappa, Tau Beta Pi

TECHNICAL SKILLS

Expert	Python (pytorch, tensorflow, scikit-learn, statsmodels, pandas, numpy, scipy)
Proficient	AWS (EC2, EMR, S3, Athena), Apache Hadoop/Spark, SQL, Git, Jupyter, Latex

WORK EXPERIENCE

Amazon Robotics — North Reading, MA
Data Scientist, Intern — *Jun 2019 - Aug 2019*

- Developed machine learning package for proprietary internal project.
- Built automated and scalable data pipeline for big data querying, cleaning, transformation, and loading ($\sim 1 \times 10^{12}$ rows). Implemented clean, extensible API for feature selection, model training, hyperparameter tuning, and testing. Developed interpretable visualizations (e.g. PDP, SHAP) for model explanations.
- Increased speed and reduced complexity of model development and analysis. Documented and published code to internal repositories.

Harvard University — Cambridge, MA
Teaching Fellow — *Nov 2019 – Present*

- CS109a: Introduction to Data Science. Prepared lecture materials on boosting, neural networks, gradient descent, backpropagation, and regularization. Explanations and visualizations lauded by students for clarity and simplicity.
- CS205: Computing Foundations for Computational Science. Led hands-on lab sections covering AWS, Docker, OpenACC, OpenMP, MPI, Hadoop, and Spark. Held weekly office hours and graded homework assignments and final projects.

Hubdoc — Toronto, Canada
Data Scientist — *Jan 2017 - Jul 2018*

- Acquired by Xero for $70 million USD.
- First data scientist. Built highly valuable deep learning system for information extraction from financial documents. Hired and led team of two additional data scientists.
- Visionary, architect, and developer of production deep learning system leveraging LSTMs and CNNs for entity extraction and text classification of financial documents. Built and deployed scalable, asynchronous pipeline for serving predictions with robust fault-tolerance and monitoring.
- Presented results and recommendations to leadership. Pitched machine learning strategy to investors. Built data visualizations for intranet.

Taylor Statten Camps — Algonquin Park, Canada
Canoe Trip Guide — *Summers 2015, 2016*

· Led 36 and 50-day canoe trips through remote Canadian wilderness. Responsible for groups of seven teenage boys. In charge of planning, safety, and navigation.

BMO Capital Markets Toronto, Canada
Financial Products Analyst *May 2014 - Aug 2014*

· Conducted analyses of interest rate swaps and swaptions. Developed algorithm to model relationship between delta-hedging frequency and expected returns for Canadian swaptions. Discovered potential market opportunities, results praised by traders.

RESEARCH & APPLIED PROJECTS

GANs for Differential Equations

· Developed novel method for unsupervised training of neural networks to solve differential equations. Leveraged generative adversarial networks (GANs) to learn the loss function. Demonstrated efficacy on a range of problems, increasing accuracy by orders of magnitude over previous methods.

Interpretable Reinforcement Learning

· Researched interpretable machine learning methods and their application to high-stakes reinforcement learning problems. Employed imitation learning to train rules-based models.

Neural Architecture Search

· Harvard Capstone project investigating Differentiable Architecture Search (DARTS) for scientific datasets. Results and blog post (Towards Data Science) viewed thousands of times.

Deep Generative Modeling

· Project focused on various deep generative models (VAEs, GANs). Currently implemented a ResNet VAE which produces fairly realistic samples.

Please see my website for all of my available work: `dylanrandle.github.io`

LEADERSHIP EXPERIENCE

Harvard Graduate Canadian Club Cambridge, MA
Treasurer *Sep 2019 - May 2020*

· Co-organizer of activities aimed at engaging the community of Canadian graduate students. Met with leaders of Canadian Embassy to plan future engagements. In charge of managing club finances, preparing budgets and fundraising requests.

Berkeley IEOR Honors Society Berkeley, CA
Vice President *Sep 2015 - May 2016*

· Engaged faculty members to participate in program fostering student-faculty collaboration on research with society members.

AWARDS & RECOGNITIONS

Harvard University Cambridge, MA
School of Engineering & Applied Science *Aug 2018 - May 2020*

· Applied Computation Scholarship: $20,000 scholarship for research in data science.
· Special Distinction in Teaching: For exemplary teaching and leadership during Spring semester 2020.

UC Berkeley Berkeley, CA
College of Engineering *Sep 2012 - May 2016*

- High Honors: Top 10% of College of Engineering at graduation.
- Phi Beta Kappa: Inducted into national academic honors society.
- Tau Beta Pi: Inducted into national engineering honors society.
- Dean's Honors: Top 10% of College of Engineering in each semester.
- Kraft Award: Perfect GPA (4.0) after freshman year.

WORKSHOPS & PRESENTATIONS

Harvard ComputeFest 2020 Cambridge, MA
Presenter *Jan 2020*

- Developed and presented "Notebook to Cloud" workshop to ∼100 participants for Harvard IACS ComputeFest 2020. Led section on deploying Tensorflow sentiment analysis model with Docker.

Toronto Machine Learning Summit Toronto, Canada
Speaker *Nov 2017*

- Presented Hubdoc's deep learning infrastructure to group of ∼80 data scientists and engineers. Discussed challenges and best practices for deploying deep learning with Tensorflow-Serving.