DYLAN LABATT RANDLE

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EDUCATION

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

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

TECHNICAL SKILLS

Expert	Python (Pytorch, Tensorflow, Pandas, Numpy, Scipy, Scikit-Learn)
Proficient	AWS, Apache Spark, SQL, Git, Jupyter, Latex
Familiar	C/C++, Javascript

WORK EXPERIENCE

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

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

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

- CS109a/AC209a: *Introduction to Data Science*. Helped prepare lecture materials on boosting, neural networks, gradient descent, backpropagation, and regularization. Explanations and visualizations praised 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 answered student questions.

Hubdoc Inc. (acquired by Xero) — Toronto, Canada
Data Scientist — *Jan 2017 - Jul 2018*

- First data scientist hired. Built highly valuable deep learning system for information extraction from financial documents. Hired and led team of two additional data scientists.
- Architect and visionary of production deep learning system levering 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.
- Regularly presented results and recommendations to C-suite. Pitched machine learning strategy to potential investors. Built data visualizations for company intranet.

Taylor Statten Camps — Algonquin Park, Canada
Long Trip Counselor — *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. All trips finished successfully with no injuries or major issues.

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 market. Discovered potential opportunities for derivatives traders.

RESEARCH & APPLIED PROJECTS

GANs for Differential Equations

· Developed novel method for unsupervised training of neural networks for solving 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 various 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*

· Co-organizer of company information sessions aimed at IEOR students. Engaged faculty members to participate in program fostering student-faculty collaboration on research with society members.

Orr's House Toronto, Canada
Head of House *Jan 2011 - Dec 2011*

· Elected by students as head of Orr's house at Upper Canada College. Responsible for holding weekly meetings, scheduling intramurals and social events, and meeting with new students. Placed first in annual house points competition.

AWARDS & RECOGNITIONS

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

· Scholarship in Applied Computation: $20,000 scholarship for research in data science.

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

· High Honors at Graduation: top 10% of class.
· Phi Beta Kappa: national academic honors society.
· Dean's Honors: top 10% of class, held throughout.
· Frank Kraft Award for Freshmen: perfect GPA (4.0) after freshman year.

Upper Canada College Toronto, Canada
High School *Sep 2011 - Jun 2012*

· Higher Level Economics Prize: top student in economics.
· Moderns Prize in French: top student in french.
· General Proficiency Award: top 10% of class.

WORKSHOPS & PRESENTATIONS

ComputeFest 2020 Cambridge, MA
Workshop Presenter *Jan 2020*

· Developed and presented "Notebook to Cloud" workshop to $\sim$ 100 participants as part of IACS ComputeFest 2020. Led section on containerization using Docker. Illustrated utility of Docker through the deployment of a Tensorflow sentiment analysis model.

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

· Presented Hubdoc's deep learning infrastructure to group of $\sim$ 100 data scientists and engineers. Discussed challenges and best practices for deploying deep learning with Tensorflow-Serving.