

DYLAN LABATT RANDLE

dylanrandle@g.harvard.edu ◇ dylanrandle.github.io

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 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 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 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.
- Regularly presented results and recommendations to C-suite. Pitched machine learning strategy to potential investors. Built data visualizations for company intranet.

Taylor Statten Camps*Long Trip Counselor*

Algonquin Park, Canada

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*Financial Products Analyst*

Toronto, Canada

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 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***Treasurer*

Cambridge, MA

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*Vice President*

Berkeley, CA

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*Head of House*

Toronto, Canada

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

School of Engineering & Applied Science

Cambridge, MA

Aug 2018 - May 2020

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

UC Berkeley

College of Engineering

Berkeley, CA

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

High School

Toronto, Canada

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

Workshop Presenter

Cambridge, MA

Jan 2020

- Developed and presented "Notebook to Cloud" workshop to ~ 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

Invited Speaker

Toronto Canada

Nov 2017

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