DYLAN LABATT RANDLE

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EDUCATION

Harvard University — Cambridge, MA
M.S. Data Science — *2018 - 2020*

- Thesis: "Unsupervised Neural Network Methods for Solving Differential Equations"
- Awards: Scholarship in Applied Computation, Special Distinction in Teaching

University of California, Berkeley — Berkeley, CA
B.S. Industrial Engineering & Operations Research — *2012 - 2016*

- Courses: Machine Learning, Statistics, Probability, Optimization, Stochastic Processes, Simulation
- Awards: High Honors at Graduation, Dean's Honors, Frank Kraft Award

WORK EXPERIENCE

Amazon Robotics — North Reading, MA
Data Scientist II — *2020 - Present*

- Leading development of optimization algorithms for multi-robot path planning
- Demonstrated significant performance improvements and cost savings (subject to NDA, no further details available)
- Presented work to leaders and scientists across Amazon

Harvard University, School of Engineering & Applied Sciences — Cambridge, MA
Teaching Fellow — *2019 - 2020*

- Introduction to Data Science
- Computing Foundations for Computational Science
- Awarded "Special Distinction in Teaching"

Amazon Robotics — North Reading, MA
Data Scientist, Intern — *Summer 2019*

- Developed automated machine learning (ML) library encapsulating end-to-end ML workflow (data collection, preprocessing, visualization, training, tuning, validation)
- Built with `pyspark`, `pytorch`, `sklearn`, `statsmodels`, `shap` on AWS EMR & SageMaker
- Reduced time and complexity of ML model development and analysis; library used by multiple analysts for a broad set of applications

Hubdoc — Toronto, Canada
Lead Data Scientist — *2017 - 2018*

- First data scientist at the company; hired and led team of two additional data scientists
- Developed and deployed deep natural language processing (NLP) system using bi-LSTMs for information extraction and classification from financial documents (invoices, receipts)
- Acquired by Xero for $70 million (USD)

Taylor Statten Camps — Algonquin Park, Canada
Camp Counselor — *Summers 2011, 2012, 2013, 2015, 2016*

- Led canoe trips ranging from 2 to 50 days
- Responsible for groups of 8 to 16 year-old campers

- Navigated ∼4000 km of remote North American wilderness

BMO Capital Markets Toronto, Canada
Financial Products Analyst *Summer 2014*

- Developed interest rate swap/swaption delta-hedging optimization algorithm
- Uncovered possible market opportunities for fixed-income traders

TECHNICAL SKILLS

Programming Languages

- Fluent: Python, Java, SQL
- Experienced: Javascript, C++, C#, MATLAB

Development Platforms

- MacOS/Linux, Amazon Web Services, Docker, Git, Conda, Jupyter

Software Libraries

- Modeling: `pytorch`, `keras`, `tensorflow`, `sklearn`, `statsmodels`, `pymc3`
- Distributed computing: `ray`, `spark`
- General: `numpy`, `pandas`, `scipy`

SELECTED PROJECTS

Unsupervised Learning of Solutions to Differential Equations with Generative Adversarial Networks

- Researched and developed novel unsupervised generative adversarial network training algorithm leading to orders of magnitude higher accuracy over traditional deep learning approaches for solving differential equations; paper published on arXiv

Differentiable Neural Architecture Search for Scientific Datasets

- Applied differentiable neural architecture search to scientific datasets (graphene cutting, galaxy zoo, chest x-rays); results documented in a blog post

Interpretable Reinforcement Learning for Healthcare with Decision Sets

- Applied imitation learning and decision sets to learn explicitly interpretable policies for sepsis treatment; results achieved performance parity with black-box models

AWARDS

Harvard University Cambridge, MA
Graduate Student *2018-2020*

- Scholarship in Applied Computation: $20,000 scholarship for research in data science
- Special Distinction in Teaching: Recognition for exemplary teaching and leadership

University of California, Berkeley Berkeley, CA
Undergraduate Student *2012-2016*

- High Honors at Graduation: Top 10% in College of Engineering at graduation
- Dean's Honors: Top 10% in College of Engineering in each semester
- Frank Kraft Award: Perfect (4.0) GPA after freshman year

CERTIFICATES

EdX

- Software Development Fundamentals (in progress)

Coursera

- Divide and Conquer, Sorting and Searching, and Randomized Algorithms (ZQ5K6VY43UN5)
- Graph Search, Shortest Paths, and Data Structures (ERUDV3QR9773)