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, Optimization, Simulation, Stochastic Processes
- Awards: High Honors at Graduation, Dean's Honors, Frank Kraft Award

WORK EXPERIENCE

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

- Led development of optimization algorithms for multi-robot path planning
- Demonstrated +10% performance improvement and potential cost savings of $150M/year
- Paper accepted for presentation (4% acceptance rate) at internal conference

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

- Introduction to Data Science: prepared materials on neural networks and tree ensembles
- Computing Foundations for Computational Science: led lab sessions on AWS, Spark, MPI
- Awarded "Special Distinction in Teaching": recognition for exemplary teaching and leadership

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

- Designed and developed AutoML library for trillion-row robotics datasets
- Encapsulated data collection/preprocessing and model training/tuning/validation/interpretation
- Reduced time and complexity of ML model development; library regularly used by team members

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

- First data scientist at the company; hired and led two data scientists
- Developed LSTM-based NLP system for information extraction from invoices & receipts
- Deployed to production for live predictions on tens of thousands of customer documents per day
- Company acquired 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 market opportunities for fixed-income traders

TECHNICAL SKILLS

Algorithms

- Deep learning (CNNs, LSTMs, VAEs, GANs)
- Classical machine learning (linear models, tree ensembles)
- Statistics (hierarchical models, MCMC)

Programming Languages

- Advanced: Python
- Intermediate: Java, SQL
- Beginner: C++

Development Tools

- Git, Conda, Docker, Jupyter, PyCharm

Platforms

- MacOS, Linux, Amazon Web Services

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)