David S. Roth

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A hardworking and curious-minded ML Engineer / Data Scientist. Excited about designing scalable machine learning systems to solve challenging, high impact problems.

Currently a second year MS student at NYU's Center for Data Science.

(May '23 Exp.)

EDUCATION

NYU Center for Data Science, M.S. Data Science (Exp.)

2021 - 2023

Machine Learning, Computational Linear Algebra, Inference and Representation, Deep Learning, Reinforcement Learning, Causal Inference, Natural Language Understanding

NYU Courant Institute of Mathematical Sciences, B.A. Computer Science

2014 - 2018

Discrete Math, Linear Algebra, Computer Systems Organization, Algorithms & Data Structures, Large Scale Web Applications, Computer Vision, High Performance Machine Learning

NYU Leonard Stern School of Business, B.S. Business / Statistics

2014 - 2018

Probability & Statistics, Linear Regression and Forecasting Models, Regression and Multivariate Data Analysis, Stochastic Processes, Theory of Probability

EXPERIENCE

Z Zillow

New York, NY

Capstone Researcher (Internship)

September 2022 - December 2022

Evaluated methods for scalable inference on graph data. Wrote training, evaluation and inference pipelines capable of computing dense node representations for attribute graphs containing 1M+ nodes using message passing and gated graph convolutional networks.

Spotify

New York, NY

Machine Learning Engineering Intern

June 2022 - September 2022

Built training and inference pipeline for entity disambiguation model used to match recordings to registered musical works. Implemented batch inference model with Luigi and Tensorflow using sparse text vectors to score \sim 30M potential match pairs on a 3 hour SLA.

Assessed error rates on lyric content across languages and markets. Designed and oversaw annotation trial to evaluate quality control approaches, resulting in an 8% reduction of erroneous lyric assignments on instrumental tracks.

KPMG KPMG Data & Analytics

New York, NY

Associate Data Scientist

January 2019 - August 2021

Data Engineer on greenfield credit card offering at major NYC financial institution. Worked on small, agile team to rapidly build and scale fault-resistant data processing pipeline to handle 20+ million daily transaction records using Airflow and Spark.

Contributed module to Cognitive Contract Modeling library utilizing FinBERT text embeddings to perform semantic search over regulatory documentation. Improved recall over previous model by 10%.

KPMG KPMG Cognitive Automation Labs

New York, NY

Summer Intern

June 2018 - August 2018

Fine-tuned passage-level topic classification network using privacy documentation and features from pretrained eLMo Bi-LSTM. Achieved F1 score of 0.62 on a held-out set with a selection of \sim 50 categories in the OPP-115 corpus.

SKILLS

- Python (10 yrs), Javascript (2 yrs), Rust (1 yr), Scala (1 yr)
- SQL, Spark, Beam, Airflow, Luigi
- PyTorch, TensorFlow, GPT, Ray, Deep Graph Library, huggingface

INTERESTS

Multi-instrumentalist and full-stack musician (writer/performer/producer)



