PRANAV BHARDWAJ

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EDUCATION

Stanford University Expected Graduation:
M.S. in Statistics: Data Science June 2020

Key Interests: Applications of computational mathematics, machine learning, and software engineering to solve problems in healthcare and tech

Coursework:

Computational Mathematics: Linear Algebra, Optimization, Stochastic Processes
Software Development: Python, C++, Parallel Computing using MPI, openMP, and CUDA
Statistics: Statistical Inference, Linear Models, Data Mining
Machine Learning: Machine Learning, Machine Learning with Graphs, Reinforcement Learning
Current: Statistical Learning, Mining Massive Data Sets, NLP with Deep Learning

University of Illinois at Urbana-Champaign Aug 2015 - May 2018
B.S. in Mathematics: Operations Research

Minor: Applied Statistics
Honors: Bronze Tablet recipient, Summa Cum Laude, High Distinction from Mathematics Department

SOFTWARE & TOOLS

Proficient Languages: Python, R, C, C++, Julia
Machine Learning & Modeling: Python sklearn, Python PyTorch, R
Data Processing & Querying: SQL, Hadoop, Spark, R dplyr, Python pandas
Data Visualization: R ggplot2, JavaScript d3, Tableau
Object Oriented Programming: Python, C++
Presentation: HTML, CSS, LaTeX, PowerPoint

PROJECTS

Opioid Safety with VA and FDA Jul 2019 - Current

Project Summary: Partnered with VA and FDA to better understand the opioid epidemic and its effect within the VA patient system

- Explore risk calibration issues across racial minorities in reconstruction of VA's opioid abuse predictive model and recommend VA use similar methods to evaluate their models
- Develop binary classification Python package which supports data processing, hyperparameter tuning, and model evaluation for sklearn linear and tree based models to allow quick, painless model iteration
- Create interactive data visualizations using d3 for partners to observe trends related to VA facilities, their opioid prescribing practices, and patient health outcomes

Portfolio Management with Reinforcement Learning (see website) Sept 2019 - Current

Project Summary: Use deep reinforcement learning to make daily stock trades in a personal portfolio

- Implement state-of-the-art actor-critic methods utilizing deep neural networks with Python PyTorch
- Automate trade execution process with Alpaca Python API