Abraar Chaudhry

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Education

Princeton University **2019-Present**
- PhD in Operations Research and Financial Engineering
- Advisor: Amir Ali Ahmadi

Brown University **2015-2019**
- BS in Math-CS with Honors
- MS in Applied Math (concurrently)
- Thesis Topic: Uncertainty Quantification for Robust Classification; Advisor: Paul Dupuis

Research Interests

Optimization, Mathematics of Data Science, Computation, Discrete Math

Papers

- Safely Learning Dynamical Systems from Short Trajectories
    - Amir Ali Ahmadi, Abraar Chaudhry, Vikas Sindhwani, Stephen Tu
    - https://arxiv.org/abs/2011.12257

Teaching

Princeton University
- TA for Computing and Optimization
    - Fall 2020
    - Taught by Amir Ali Ahmadi

Experience

Captatio AB **Summer 2019**
Data Scientist Intern
- Researched the application of chance-constrained programming to pharmaceutical portfolio optimization (paper submitted)
- Implemented several optimization methods and conducted numerical experiments to assess proposed approaches
- Constructed a data visualization that shows how the expected net present value of a pharmaceutical portfolio changes under different scenarios of various likelihoods

United Technologies Digital **Summer 2018**

Data Science Intern

- Applied data science for Pratt & Whitney engine prognostics
- Generated watch lists and estimated risk
- Applied Machine Learning methods and models, such as:
- PCA, LDA, SVMs, Deep Learning, Survival Analysis
- Dealt with data challenges, including:
- Data noise, Label noise, Imbalanced Classes, Feature Correlation, Censored Data

United Technologies Research Center **Summer 2017**

Research Intern

- Conducted data analysis of technical data including machine learning and curve fitting related to United Technologies products
- Created new designs of technology in Solidworks and visualized with Blender
- Conducted experiments for a research project in the field of frictionless access
- Created various other visuals including a Matlab GUI and a D3 visualization

Harvard Kennedy School **Summer 2017**

Research Assistant

- Co-wrote a natural language processing program for Professor Linda Bilmes to analyze hundreds of Presidential memoranda and Congressional hearings from the Korean War, Vietnam War, and Post-9/11 conflicts to measure the significance of testimony about war costs, tradeoffs and taxation.
- Tested, adjusted, and implemented the program to identify trends in war cost discourse among elected officials and government employees over several decades.
- Professor Bilmes presented these findings in a Congressional briefing hosted by Senator Jack Reed in November 2017.