

Russell Kim

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PROFESSIONAL EXPERIENCE

XaiPient ML Research Engineer

New York, NY
Jun 2020 – Present

- Advisor: Prof. Somesh Jha (<http://pages.cs.wisc.edu/~jha/>).
- Researched and engineered attributions of sparse features for deep neural networks, as well as contributing to the core API for explainability AI products.
- Developed and oversaw production of a gradient descent based Counterfactual explanation system which iterates using Tensorflow models as data controllers and returns class boundary probabilities based on Wachter et al.(2017)

NLMatics NLP Research Intern

New York, NY
Feb 2020 – May 2020

- Used principles from classic NLP, graph theory, bayesian probabilistic inference, bioinformatics, active learning, reinforcement learning and deep learning to create scalable and robust NLP products for enterprise applications.
- Worked with research training datasets such as GLUE and create self labeled datasets from publicly available corpuses based on in-house written algorithms such as siamese neural networks or deep Q-Learning.
- Researched new text summarization and sentiment analysis techniques of few-shot learning classification techniques by implementing and expanding upon recent ICML papers.

Princeton University Undergraduate Research Fellow/ Keller Center

Princeton, NJ
Feb 2019 – Sept 2019

- Advisor: Prof. Frederick Wherry (<https://sociology.princeton.edu/people/frederick-wherry>)
- Researched into credit card delinquencies based on financial data provided by the Brooklyn Financial Clinic and the Consumer Financial Protection Bureau.
- Implemented a web spider on Facebook and created keyword network graph using a co-occurrence matrix to determine customer sentiment.
- Resulted in data contributed towards several research papers.

Point72 Asset Management, LP Aperio Data Modeling Intern

New York, NY
Jun 2018 – Aug 2018

- Worked under David Loaiza, PhD, on home construction company sales data and forecasting volatility trends
- Designed and implemented an automated script that would webscrape 12 different home construction websites periodically and store them in SQL databases.
- Developed an ARIMA time series forecasting the number of foreclosures and mortgage cancellations by exploring default trends and volatility in similar bunches of locations.

EDUCATION

Princeton University

B.S.E in ORFE with an emphasis on applied math and optimization

Princeton, NJ
Sept 2016 – Jun 2020

Thesis: A Reinforcement Learning Based Approach to Pricing and Hedging Financial Derivatives
(<https://git.io/Jfrv7>)

Advisor: Prof. Mete Soner (<https://soner.princeton.edu/>)

SKILLS

Programming : Python, Matlab, L^AT_EX, Bash, R, Java

Frameworks : Tensorflow, PyTorch, OpenAI Gym, NLTK, spaCy, Keras, Gensim

Languages : English, Korean, French

RESEARCH INTERESTS

Topics: Nonparametric reinforcement learning, stochastic systems under closed MC simulation, derivatives pricing, convexity in explainability AI.

- Nonparametric discrete definition of financial derivatives.
- Confidence bounding in boundary decision problems with sparse input features.
- One-shot learning of complex objects using siamese neural networks.