ROY N. WU

M.S.E. IN COMPUTER AND INFORMATION SCIENCE & DATA SCIENCE

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EDUCATION

Philadelphia, PA	**University of Pennsylvania**
Expected May 2022	*Master of Science in Engineering, Computer and Information Science*
Expected May 2022	*Master of Science in Engineering, Data Science*

- **Courses:** Algorithms & Computation, Big Data Analytics, Machine Learning, Deep Learning, Artificial Intelligence, Computer Vision, Machine Perception, Time Series Forecasting, Software Foundations
- **Leadership:** Data Science General Assembly, Penn Data Science Group Board

New York, NY	**New York University**
Aug 2013 - May 2017	*Bachelor of Arts, Mathematics*
Aug 2013 - May 2017	*Bachelor of Arts, Economics*

- **Courses:** Linear Algebra, Probability, Statistics, Econometrics, Differential Equations, Numerical Analysis
- **Honors and Awards:** Dean's List, University Honors Scholar (Founders' Day Award)

SKILLS

Programming	Python (PyTorch · Scikit-Learn · NumPy · Pandas · Matplotlib · NetworkX) · C++/C · Scala · Java
Technologies	SQL · Apache Spark · AWS · Azure Databricks · Git · Docker · Power BI · LaTeX
Others	Actuarial Exams: SOA Exam P/CAS Exam 1 · Languages: Mandarin Chinese · Video: Final Cut Pro, HitFilm

EXPERIENCE

Chicago, IL	**William Blair**
Jan 2021 - May 2021	*Data Science Intern*

- Building network graphs and text mining models to effectively analyze investment banking M&A deal paths

Boulder, CO	**The Trade Desk**
Jun 2020 - Aug 2020	*Data Science Intern*

- Added a new feature to support lookalike modeling for customized campaign optimization with Spark Scala
- Analyzed 100,000 rows of unexplored ad group data (queried with Vertica SQL) and designed a custom multi-target linear regression model to improve AI recommendation with Python; increased ad group performance by 45% and reduced error by 58% on average across all KPI goals

New York, NY	**Vitech Systems Group**
Jun 2018 - Jul 2019	*Solutions Analyst*
Jun 2017 - May 2018	*Associate Solutions Analyst*

- Served as main liaison between engineering team and clients on agile-based software development projects
- Built and maintained PL/SQL scripts for data extraction and data analysis
- Collaborated with tech leads to design extensive workflow processes and write new software design documents, advanced functional specifications, and enhancement contracts

New York, NY	**Haver Analytics**
Sep 2016 - May 2017	*Economic Research Intern*

- Compiled, managed, and quality-assured databases covering macroeconomic indicators of APAC markets
- Added new time-series data to databases and automated data extraction and formatting with DOS

PROJECTS

Independent Work	**Robinhood Algorithmic Trading Bot**
Dec 2020 - Present	

- Built a stock trading bot that interfaces with Robinhood's API to automate buying/selling shares based on historical stock prices and trend indicators

UPenn CIS 522	**Headline Writer: Abstractive Text Summarization with Attention and Pointer-Generator Network**
Jan 2020 - May 2020	[**paper**] [**code**] [**blog**] [**youtube**]

- Trained a Seq2Seq network with BiLSTM units on 200,000 news articles to generate summary headlines
- Improved the network with attention mechanism, teacher forcing, and a pointer-generator; achieved BLEU score of 0.075, outperforming results from main reference paper from 2015 by 0.065

UPenn CIS 519	**Artificial Anime Character Design: An Application of Generative Adversarial Networks (GANs)**
Jan 2020 - May 2020	[**paper**] [**code**] [**blog**]

- Implemented generative adversarial networks with improved training techniques (trained on 21,000 images) to generate artificial anime character designs