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*

- Working on network graphs to identify effective teams and forecast private wealth management revenue

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