MI-RU YOUN

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EDUCATION

Boston University, Boston, MA — Expected December 2025
Master of Science in Data Science **|** GPA: 3.6
Relevant Coursework: Tools for Data Science, Linear Models, Introduction to Reinforcement Learning, Deep Learning for Data Science, Engineering for Big Data Workloads

University of North Carolina at Chapel Hill, Chapel Hill, NC — May 2022
Bachelor of Science in Environmental Science, Minor in Statistics and Data Science
Relevant Coursework: Foundations of Statistics and Data Science, Introduction to Data Science, Statistical Analysis in Ecology and Evolution, Statistics for Environmental Scientist

TECHNICAL SKILLS

Programming: Python, R, Java, JavaScript, HTML, CSS, SAS
Data & ML: PyTorch, TensorFlow, Scikit-Learn, NumPy, Pandas, Matplotlib, Seaborn
Databases: SQL (PostgreSQL, MySQL, SQLite), NoSQL (MongoDB, Cassandra)
Other: Git, Hadoop, Spark, AWS, Microsoft Azure, Jupyter Notebooks, Microsoft Office (Word, Excel, etc.), Tableau, Power BI

EXPERIENCE

Data Science Tutor, Raleigh, NC — May 2022 – August 2025

- Tutored undergraduate and high school students in Python, R, SQL, statistics, linear algebra, and machine learning concepts, reinforcing theoretical knowledge through hands-on coding exercises.
- Designed personalized learning plans that improved student performance in calculus, probability, and data analysis, leading to measurable grade improvements.
- Guided students through end-to-end data science projects, from data cleaning and visualization to predictive modeling and evaluation.

PROJECTS

Multi-Agent Reinforcement Learning for StarCraft II, (Python) — Spring 2025
CDS DS 543 Introduction to Reinforcement Learning

- Modified and implemented a QMIX variant (RelaxedQMIX) to relax monotonicity constraints in value decomposition and improve agent coordination.
- Ran large-scale MARL experiments on SMAC, improving MMM2 win rate from 10% to 70% over QMIX while maintaining stable performance across maps.

Dark Matter Modeling with Graph Neural Networks, (Python) — Spring 2022
CDS DS 542 Deep Learning for Data Science

- Developed and trained a Graph Convolutional Network to predict astrophysical parameters from simulated stellar particle data, achieving an R^2 score up to 0.92 across predicted outputs.
- Met baseline regressors on 4 of 5 targets and visualized model performance through loss curves and prediction-vs-truth diagnostics.

GBH Bus Equity, Boston, MA — September 2024 - December 2024

- Analyzed MBTA bus ridership data to identify trends and insights by categorizing routes into local, express, and crosstown categories and calculating net ridership metrics.
- Developed visualizations to highlight insights, including next-bus wait times, lateness, demographics, and route performance, comparing data from 2019 to 2022.

BMW Price Analysis, (R) — Fall 2024
CAS MA 575

- Conducted comprehensive statistical analyses, including ANOVA and regression analysis, to evaluate factors influencing BMW pricing and identify significant predictors.
- Developed and tested multiple predictive models for BMW prices, utilizing 20+ factors and achieving an R^2 value of 74%.

ADDITIONAL INFORMATION

Languages: English (native), Korean (intermediate)
U.S. Citizen, eligible to work without sponsorship