Seohee Yoon
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Education

Georgia Institute of Technology — **Atlanta, Georgia**

Bachelor of Science in Computer Science — *Jan 2022- May 2024*
Master of Science in Computer Science — *Aug 2024 - Dec 2025*
Major GPA: 3.89 - Dean's List

Experience

Data Driven Education, Georgia Institute of Technology — **Atlanta, Georgia**

Research Assistant (Data Scientist) — *Aug 2022 – Dec 2023*

- Collaborated with a team of 7 to help instructors and academic departments develop effective assessments
- Identified the level of difficulty for the actual assessment from the dataset based on the Depth of Knowledge (DOK) framework utilizing Python, Google Colab, and Term Frequency - Inverse Document Frequency (TF-IDF) algorithm
- Designed a dataset for training Regressor for Difficulty and Discrimination Estimation model to predict problem DOK level
- Evaluated various algorithms (Random Forest, Decision Tree, Support Vector, Linear Regression, Ridge Regression) for optimal model using scikit-learn library
- Expanded testing data in the dataset from 50 to 900 data leveraging problems from various subjects
- Reduced mean absolute error about 50% using random forest than support vector algorithms with more data

Projects

Stock Market Prediction Project — *Feb 2024 –Present*

- Predict stock price changes using several machine learning algorithms such as Support Vector Regression, Linear Regression, and LSTM
- Evaluate linear regression models using K-fold cross-validation, resulting in 95% accuracy in prediction
- Visualize prediction results from various models and compared each accuracy using tableau

Scene Recognition with Deep Learning Project — *Nov 2023*

- Developed a convolutional neural network (SimpleNet) with 2 convolution layers which aligns with given training dataset using PyTorch
- Implemented data augmentation techniques, normalization, and regularization to improve training accuracy and validation accuracy by 30% of the network
- Enhanced pretrained resnet from pytorch's API by modifying layer of model to get a testing accuracy of 85%

Database Application Project — *Sep 2023 – Dec 2023*

- Designed an Extended/Enhanced Entity-Relationship Diagram (EERD) based on the provided requirements
- Created a set of Relational Schema and SQL Physical Schema based on a provided EERD, transformed and uploaded a provided dataset into the desired database
- Developed the SQL views, queries and transactions needed to support an application based on a provided database and dataset

Image Processing and Hybrid Image Generation Project — *Sep 2023*

- Developed image filtering function imitating the Filter2D() function in OpenCV using both Python and PyTorch
- Generated hybrid images by using high-frequency details from one image with low-frequency components from another image
- Implemented image generating algorithm using PyTorch, reducing running time by 80% over NumPy.

Campus Discovery Service Project, Atlanta — *Aug 2022 – Dec 2022*

- Collaboratively engineered a Campus Discovery Service Application with a team of 5 within an Agile framework comprising 6 sprints
- Designed user interface and user experience for five iOS application screens, employing JavaScript and React Native
- Utilized version control systems and enhanced team collaboration by integrating and consistently using GitHub for code management and project tracking

Skills

Programming Languages – Python, Java, MySQL, Git, C#, Assembly Programming, C, React, JavaScript, React Native
Concepts – AGILE, Computer Architecture, Data Structure, Computer Network, Machine Learning, OOD/OOA, XP