Seohee Yoon

470-838-2401 | syoon333@gatech.edu |351 FERST DRIVE, 325193 GEORGIA TECH STATION, Atlanta, GA, 30332

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*
GPA: 3.72 - 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

Respiratory Diagnosis Assistant   *Feb 2024 – May 2024*

- Developed an automated lung sound classification Web using machine learning, improving accuracy from 70% to 83% through data augmentation and a GRU model
- Managed complex data structures with MongoDB and Amazon S3, integrating with Django for database operations
- Enabled predictive diagnostics and streamlined workflow for healthcare professionals by providing instant access to relevant audio samples and patient information

Stock Market Prediction Project   *Feb 2024 – May 2024*

- 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

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

Python, Java, MySQL, Git, NumPy, Pandas, C#, Assembly Programming, C, React, Tableau, JavaScript, React Native