Yong Seok Lee

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Education

The College of Wooster Wooster, OH

Bachelor of Arts in Computer Science, Minor in Statistical and Data Science, Mathematics *August 2019 – May 2023*

Honors & Awards

Wooster International Scholarship, Dean's List, Magna Cum Laude, Indepdendent Thesis Honors

Research Experience

Senior Independent Study August 2022 – May 2023

Advisor: Dr. Sofia Visa *Wooster, Ohio*

- Wrote a 70+ page thesis exploring stock investing paradigms, the Django framework, User Interface theory, and data management
- Created the Stock Market Simulator, a full-stack web application that can simulate the past stock markets, allow users to create a stock portfolio, and compare the performance of the user's portfolio to that of a stock index
- Discussed the project's research methodology, results, and implications of the project in both the Senior Research Symposium and the oral dissertation

Junior Independent Study January 2022 – May 2022

Advisor: Dr. Heather Guarnera *Wooster, Ohio*

- Wrote a 20+ page thesis exploring the fundamentals of feedforward and recurrent neural networks, along with a literature review on studies that evaluate their performance in predicting stock prices
- Created the Stock Price Predictor using Keras, which uses an LSTM model to predict the historical price of the S&P 500, NASDAQ Composite, and DJIA Indices
- Achieved accurate stock price predictions for the three indices, with the lowest nRMSE value of 0.014. Results were visualized using Matplotlib

Artificial Intelligence Research Assistant June 2020 – May 2021

Advisor: Dr. Jennifer Hayward *Wooster, Ohio*

- Preprocessed OCR scans of English newspapers published in Chile during the 19th and early 20th centuries by using tokenization, punctuation removal, and lemmatization in Gensim
- Extracted specific words such as "Chili" and "Cochrane" to determine their contextual usage using part-of-speech tagging in spaCy, and created interactive visualizations of the results using pyLDAvis for interpretation

Work Experience

Software Engineer Intern July 2022 – August 2022

Vertex Software *Remote*

- Built software that scrapes and preprocesses web data to identify listing statuses of specified products using Beautiful Soup
- Implemented an email sender to notify users when new products are on sale using the email and smtplib package

Software Engineer Intern May 2022 – July 2022

Goodyear Tire and Rubber Company *Wooster, Ohio*

- Implemented new functionalities to Goodyear's in-house visualization software using PyVista. Added data selection and interaction, contour plots, saving and loading visualizations, and copy and paste functionality
- Built a GUI using PyQt5, adding a menu bar, dock widget, and information window. Restructured the code to allow the software to run multiple sessions and improve readability
- Adhered to SCRUM principles by leading daily meetings with the team, conducting weekly sprint reviews with clients, and re-prioritizing the product backlog based on client feedback

Software Test Engineer Intern May 2021 – July 2021

Line45 *Remote*

- Built an automated testing suite using Pytest for Bensis, a SaaS application, achieving a code coverage of 87%
- Built a mock database using PostgreSQL to write the tests for GraphQL queries and mutations
- Led daily stand-up meetings to provide updates on progress of project with group members. Reviewed and maintained technical documents to present to clients at the end of internship

Projects

Artket | *Python, Flask, SQLAlchemy, Git, HTML, CSS*

- Designed and developed an online marketplace for art with a user interface based on the client's specifications
- Developed a secure credit card authentication system using Luhn's algorithm
- Implemented segregated server-client architecture: client handled data transformation and query generation, while server managed validation and data formatting before storing to the database

Breast Cancer Classifier | *Python, pandas, NumPy, Matplotlib, sklearn*

- Created various models of KNN and SVM using UCI's Breast Cancer dataset to classify whether a tumor is malignant or benign
- Performed exploratory data analysis to address any issues with the dataset including missing variables and outliers
- Yielded a 98.29% accuracy rate of breast cancer classification using the SVM model with the linear kernel

Wine Quality Predictor | *R*

- Preprocessed UCI's Wine Quality dataset by separating based on wine type, excluding variables unfit for logistic regression, and converting ordinal variables into binary variables
- Performed stepwise logistic regression on the relevant variables and created a model that predicts wine quality based on alcohol and volatile acidity with an accuracy 74.69%

Skills

Languages: Python, Javascript, R, C, LaTeX, HTML, CSS
Technologies: Pandas, NumPy, Git, UNIX, MySQL, Keras, Tensorflow, Firebase, React

Extracurricular Activities

Resident Assistant August 2021 – May 2022
Freshman Dormitory Resident Assistant *Wooster, Ohio*

- Provided guidance and support to a diverse group of residents, fostering a positive living and learning environment
- Organized and executed community-building events and programs to promote social interaction and inclusivity among residents

Effective Altruism Committee August 2021 – May 2022
Treasurer *Wooster, Ohio*

- Managed the organization's budget, ensuring accurate and transparent financial records throughout the school year
- Secured $700 in funding from Center of Effective Altruism and One For the World to fund the organization's activities through successful grant applications

International Student Orientation Committee February 2020 – May 2021
Member *Wooster, Ohio*

- Collaborated with a diverse team to plan and execute comprehensive orientation programs for international students
- Facilitated workshops and sessions to help international students navigate cultural differences, fostering an inclusive and welcoming environment

First Year Governance Council October 2019 – May 2020
Council Member *Wooster, Ohio*

- Participated actively in weekly council meetings, collaborating with other members to discuss and address issues relevant to the first-year student experience
- Organized and executed events that promoted community-building among first-year students, encouraging involvement and social connections