Jessica Shi

EDUCATION

University of Maryland, College Park Graduation: December 2024
Bachelor of Science in Computer Science and Economics, Minor in Statistics
National Merit Scholarship Winner

Relevant Coursework: Object-Oriented Programming, Data Structures, Algorithms, Computer Systems, Web Development, Computer and Network Security, Computational Game Theory, Human Computer Interaction, Data Science, Machine Learning, Econometrics, Linear Algebra, Probability and Statistics, Sampling Theory

EXPERIENCE

Booz Allen Hamilton | National Security Sector June 2024 - August 2024
Summer Games Cyber Intern

- Created datasets for machine learning using scripts in Java and Python
- Designed and implemented Convolutional Neural Networks (CNNs) for image classification and steganography detection tasks with TensorFlow
- Deployed and managed machine learning models on AWS for optimal performance and scalability
- Developed a full stack web application and REST API using Python Flask, JavaScript, HTML, CSS

University of Maryland | ARLIS February 2023 - June 2023
Undergraduate Research Assistant

- Implemented the fast sweeping algorithm for optimal movement in dynamic environments with Python
- Utilised the GDAL, Elevation, and RichDEM libraries to calculate the dynamic slope of various terrains
- Analysed Tobler's hiking function as the cost function for discovery of an optimal path

University of Maryland, College Park February 2023 - July 2023
Undergraduate Research Assistant

- Worked alongside faculty to develop and update the NEMO Interstellar Dynamics Toolbox
- Designed a Python script using Matplotlib to support the creation of line/scatter plots from an Astropy table
- Used the Docopt library to parse arguments from the user for creating a command-line interface

USAEOP REAP at Johns Hopkins University June 2020 - August 2020
Intern

- Used LAMMPS and C++ to perform simulations regarding molecular dynamics
- Studied the relationship between fluid viscosity and pressure/temperature through AIREBO-M variances
- Analysed data through the use of Matplotlib, NumPy libraries

PROJECTS

Chess AI | *JavaScript, HTML, CSS*

- Developed a chess program that uses a minimax algorithm with alpha-beta pruning to select the best move
- Used modified chess.js and chessboard.js libraries as an engine
- Built a web application to display and play the game

Market Mood Detector | *Python, TextBlob*

- Created a web scraping script to extract and store Yahoo Finance article titles in a database
- Applied sentiment analysis to classify articles as having positive or negative market sentiment
- Leveraged sentiment trends to predict potential movements in the S&P 500 index

SKILLS

Languages: Proficient in Java, Python, JavaScript, HTML/CSS, SAS | Familiar with C/C++, R, SQL, Assembly
Frameworks: JUnit, ReactJS, Flask, Tailwind, Express
Developer Tools: Git, Eclipse, Sublime, Jupyter Notebook, AWS
Libraries: Matplotlib, NumPy, pandas, JavaFx
Foreign Language Skills: Mandarin Chinese, Spanish