Yixiao (Sophie) Lei

EDUCATION

University of Colorado Boulder **Boulder, USA**
Bachelor of Science in Computer Science, GPA: 3.74/4.0 Expected Graduation: Aug. 2023
Coursework: Data Structure, Princip of Prog Langs, Artificial Intelligence, Machine Learning
Shanghai University of Engineer Science **Shanghai, China**
Bachelor of Science in Chemistry, GPA 3.72/4.0 Sept. 2017 – June 2019

EXPERIENCE

National Snow and Ice Data Center (Jenkin, C++, Linux/Unix, shell script, Python, Jenkin) May.2022 – Sept.2022
- Automated remote data systems monitoring and performed data backups and migrations, and created and reviewed documentation with up-to-date information.
- Developed over 100 shell scripts projects in Jenkins to automate data backup, processing, and cleanup functions for multiple systems, resulting in improved data quality and reduced manual errors.
- Conducted end-to-end testing for data access services and provided detailed Linux-level comments to ensure proper system functioning and clear logging.
- Utilized Python and shell scripts to detect missing data and discrepancies between different years, proactively preventing potential data loss issues.

EQuota Energy (Python, Numpy, Matlibplot, Seaborn) June 2019 – Aug.2019
- Performed in-depth analysis of quarterly ammeter(electric meter library) data, providing data-driven insights to help customers save energy and manage their budgets more effectively.
- Utilized Python, Numpy, and Pandas to perform data cleaning and transformation, including deriving useful columns such as electricity consumption and fluctuations during specific time periods in different areas.
- Created various data visualizations, including line charts, bar plots, and heatmaps, using Matplotlib and Seaborn to identify trends and irregularities in electricity usage, and developed an automated alert system to report any anomalies.
- Detected irregular electricity usage in different office buildings, enabling them to adjust their energy supply design and ultimately reduce energy waste.

PROJECTS

Wildfire Map and Prediction Website (React, Node.js, Google Map API, JavaScript, SQL, Flask) April 2022
- Led a team of developers in tracking project progress using Agile methodologies and project pivots, facilitating the team's gathering and updating of project ideas.
- Developed an interactive user interface using JavaScript, Sass, Bootstrap, Node.js, React, and Rechart, which visualized US and global wildfires on a website with a heatmap displaying the number of wildfires occurring in different regions filtered by month, year, cause, and size.
- Built a wildfire prediction page allowing users to input location and time data to receive a prediction of potential wildfire occurrences in the specified area.
- Extracted millions of wildfire data from various sources, including USDA, NASA, and Meteostat, using Python to clean the data and provide conclusions.
- Created a machine learning model using TensorFlow, which was combined with XGboost and Random Forest models to improve the accuracy of predicting future wildfire occurrences in a specific state and date by up to 80%.

Calendar App (HTML/CSS, JavaScript, SQL, Node.js, Python) June 2022
- Developed a personal smart calendar website utilizing HTML/CSS, JavaScript, SQL, Node.js, and Python to recommend daily activities and generate user activity reports based on personality and past behavior patterns.
- Designed a responsive user interface, including a login page, navigation bars, and an online questionnaire, using React/Javascript to enable real-time recommendations and improve user experience.
- Stored user information and calendar information in SQL for easy access and management.
- Analyzed personal data using Python to generate weekly user personality and behavior reports, achieving high user satisfaction and retention for long-term user and developer tracks.

Technical SKILLS

- Programming Languages: Python, JavaScript, C++/C, MATLAB, Java, SQL(Postgres), HTML/CSS
- Libraries/Frameworks: React, Node.js, Express, PyTorch, Flask, Numpy, pandas, matplotlib
- Tools/Databases: AWS,, Git, Linux, VSCode, IntelliJ,, MySQL, Docker
- Machine Learning: Linear Models, Generalized and Multiple Linear Regressions, Logistic Regression Model, Classification Tree