Jayant Babu

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SKILLS

Languages: Python, R, SQL, Java, Javascript, C/C++, Swift
Frameworks: Pandas, Keras, Tensorflow, Scikit-learn, React Native
Methodologies: Data Analysis, Machine Learning Techniques, Agile Development
Tools and Additional Skills: AWS Services, Selenium, Tableau, D3.js, Salesforce Platform, Android-Studio, XCode, Database Management, Signal Processing

EXPERIENCE

Developer **August 2022 - December 2022**
Tinosys LLC **Houston, Texas**

- Led development of Android and iOS applications for field tax calculation in oil industry, integrating AWS CloudFormation and SNS, advancing resource management and SMS communication capabilities by 40%. Required in-depth knowledge of mobile platform nuances and the ability to develop robust, scalable applications.

Technical Assistant **May 2021 - August 2022**
Virginia Tech Libraries **Blacksburg, Virginia**

- Streamlined inventory management to boost process efficiencies by 30%, coordinated inter-library loans, and managed client service operations, also leveraged database management tools to maintain accurate and up-to-date inventory records.

Research Assistant **January 2021 - May 2021**
Brown Experiential Learning **Blacksburg, Virginia**

- Created a comprehensive COVID Dashboard, aggregating data from multiple sources to provide insightful visualization and analysis of pandemic spread patterns, improving data accessibility and decision-making speed by 25%.

Intern **May 2020 - December 2020**
Tinosys LLC **Houston, Texas**

- Engaged in machine learning projects using SciPy and Keras for predictive modeling and automated web processes with Selenium, achieving a 20% increase in efficiency for data-driven tasks; contributed to Salesforce-based solutions for log file analysis using similarity algorithms.

PROJECTS

Air Quality Prediction

- Utilized XGBoost to predict the Air Quality Index (AQI) from pollutant data, achieving a Root Mean Square Error (RMSE) of 1.80 for the training set and improving to 0.19 for the testing set through meticulous data preprocessing and model tuning.
- Enhanced the model's performance through hyperparameter tuning, reducing the training RMSE to 1.31 and adjusting the testing RMSE to 0.45, demonstrating effective prediction of AQI and supporting targeted pollution control strategies.

Solar Energy Generation

- Developed a predictive ensemble model using Random Forest, SVM, Gradient Boosting, and Decision Tree algorithms to accurately forecast solar capacity at the county level in the U.S., achieving an R-squared score of 0.79 and highlighting areas for potential renewable energy expansion.
- Enhanced forecasting capabilities through time series analysis using a SARIMA model to predict short-term Global Horizontal Irradiance (GHI) trends, providing precise predictions essential for strategic renewable energy planning and investment.

Deliveroo Web Scraping Tool

- Developed a script navigating complex web architectures, delivering structured and actionable data while enhancing data processing speeds by 40%.

EDUCATION

Bachelor of Science in Data Science **January 2022 - May 2024**
Arizona State University **Tempe, Arizona**
Bachelor of Science in Computational Modeling and Data Analytics **August 2019 - August 2022**
Virginia Tech **Blacksburg, Virginia**