Satya Pavan Kalyan Gude

Computer Science Professional

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ABOUT

Experienced software developer with a solid background in front-end development, as well as Machine Learning, Deep Learning and AI. Possesses excellent communication, analytical, and critical thinking skills. Completed master's program in Computer Science-AI in University of Missouri St. Louis, in May 2024. Actively seeking career opportunities within the tech industry.

SKILLS

Programming Languages: Java, Python, SQL(Advanced), JavaScript, HTML5, CSS
Frameworks/Technologies: React.js, Redux
Machine Learning/Deep Learning: TensorFlow, Keras, scikit-learn,Pandas, Numpy, Grad-CAM, LIME, Deep Learning, Interpretable Machine Learning, Basics of Pyspark.
Tools: Jupyter Notebook, SQL Server Management Studio, Github & Github Desktop, Excel, Kaggle, Google Colab, Tableau, Overleaf.
Soft Skills: Team player, Bias for action, Deliver results.

CERTIFICATIONS AND AWARDS

Best Individual Performer 2021 (OYO ROOMS)
Best Performer and Party Animal 2024 (Student Facility Manager)
Artificial Intelligence Certification 2024 (University of Missouri St. Louis)

PROJECTS

Emotion and Gender Recognition: Training AI to Decipher Facial Recognition:

- Developed a CNN model for emotion and gender recognition using TensorFlow and Keras, achieving high accuracy in classification tasks.
- Enhanced model interpretability by implementing LIME for gender classification and Guided Grad-CAM for emotion recognition.
- Utilized data preprocessing techniques, including image resizing and normalization, to optimize model performance.
- Conducted thorough analysis of model predictions using visualization techniques such as heatmaps and segmentation.
- Addressed challenges in low-resolution image processing and explanation generation, improving overall model robustness.

Surfing the Waves of Data: Web Traffic Analysis and Anomaly Detection:

- Analyzed and predicted web traffic patterns using LSTM networks on a Wikipedia dataset, focusing on time series forecasting.
- Performed comprehensive exploratory data analysis, visualizing traffic patterns across different Wikipedia pages, languages, and time periods, uncovering insights such as seasonal trends and significant traffic spikes correlated with major events.

- Implemented data augmentation techniques, including noise addition, to enhance model performance and achieve a SMAPE of 5.83.
- Utilized XGBoost for comparative analysis, achieving a SMAPE of 25.89 for web traffic prediction.
- Applied the IsolationForest algorithm for anomaly detection in both actual and predicted test sets.
- Experimented with various model architectures and regularization techniques to optimize predictive performance.

Stroke Prediction AI Model:

- Developed a neural network model to predict stroke likelihood using feedforward neural networks, achieving high accuracy and providing valuable insights.
- Implemented data preprocessing techniques, including Z-score normalization, to standardize input features.
- Conducted feature importance analysis to identify key factors influencing stroke prediction.
- Evaluated model performance using various metrics, including precision, recall, F1-score, and ROC curves.
- Experimented with different neural network architectures to optimize model performance, achieving up to 99.56% validation accuracy.

Cervical Cancer Classification:

- Developed a robust classification pipeline for cervical cancer prediction using various machine learning models including Logistic Regression, Random Forest, KNN, and SVM.
- Performed extensive data preprocessing and handling of missing values, along with feature engineering to improve model performance.
- Addressed data imbalance using advanced resampling techniques like ADASYN to ensure accurate model training.
- Optimized hyperparameters using GridSearchCV and achieved high classification accuracy, precision, recall, and F1 scores.
- Visualized data insights and model performance using interactive plots and confusion matrices to enhance interpretability and presentation.

Adversarial Attacks on Digit Recognition:

- Developed a CNN model for digit recognition using the MNIST dataset, achieving high accuracy through data augmentation and regularization techniques.
- Implemented adversarial attacks by adding Gaussian noise to test the robustness of the model, identifying the most vulnerable digit classes.
- Optimized model performance using learning rate reduction and data augmentation strategies like image rotation and shifting.
- Evaluated model accuracy and robustness under adversarial conditions, providing detailed classification reports and visualizations.
- Enhanced interpretability by visualizing the effects of adversarial noise on model predictions, highlighting areas for potential model improvements.

A Burger Builder: Web Application:

- Developed a responsive web application using React.js and Redux, allowing users to interactively build and order custom burgers.
- Implemented state management with Redux to ensure efficient data flow and component updates throughout the application.
- Integrated Firebase for real-time data storage and order management, enabling seamless user interactions and order tracking.
- Designed an intuitive user interface for burger customization, enhancing user experience and engagement.
- Utilized modern web development practices to ensure cross-browser compatibility and optimal performance.

Other Projects:

- Bike Rentals, YouTube Spam etc.,

PROFESSIONAL EXPERIENCE .

Sep 2021-Dec 2022

Front End Developer, OYO Rooms, India

- Developed responsive web pages for Relational Managers to monitor and update pricing structures.
- Designed user-friendly interfaces using React.js, ensuring compatibility across devices and browsers.
- Created dynamic web pages with HTML5, CSS, and JavaScript for easy data management.
- Conducted thorough testing and debugging to ensure seamless user experiences.

Quality Assurance Engineer, OYO Rooms, Hyderabad, India

Sep 2019-Aug 2021

- Created comprehensive test plans outlining testing strategy, scope, resources, and schedule for various software projects..
- Conducted manual testing for web and mobile applications, identifying and reporting bugs and ensuring software quality..
- Developed and maintained automated test scripts using selenium to increase test coverage and efficiency.
- Performed regression testing to ensure that new code changes did not negatively impact existing functionality
- Utilized bug tracking tool JIRA to log, track, and manage defects throughout the software development lifecycle.
- Worked closely with development teams to understand requirements, provide feedback on design, and ensure testability of code.

EDUCATION

University of Missouri St-Louis **Jan 2023-May 2024**
Masters in Artificial Intelligence

S.R.K.R Engineering College (Affiliated by Andhra University, India) **May 2015-Apr 2019**
Bachelor of Science in Computer Science