Abdul Raheem Jalil

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Education

Bachelor of Science - Computer Science,   (SEP. 2020-JUNE 2024)
- FAST-NUCES, Lahore

A'Levels,   (NOV 2019-MAY 2021)
- LGS JT

Experience

NETSOL Technologies | Unity Department Intern,   (AUGUST 2024- SEPTEMBER2024)
- Gained hands-on experience in Python development within the **Unity Department**, contributing to automation tasks and optimizing workflows for game and simulation applications.
- Assisted in the integration of **machine learning models** to enhance game dynamics and AI-driven simulations.
- Collaborated with senior developers to explore the intersection of data science and game development, applying Python scripting for performance improvements.

NASA | AI Space Camp,   (JUNE 2022- AUGUST 2022)
- Attended an immersive space technology program focused on data science, AI, and machine learning applications in aerospace research.
- Worked on training data-driven models, gaining exposure to satellite imaging analysis, predictive analytics, and real-time data processing.
- Developed an understanding of scientific computing techniques used in space research, contributing to a group project on astronomical data analysis.

Projects

UniBot *(ReactJS, Node.js, MongoDB, Python)*
Developing a comprehensive university registration system integrated with an AI-powered chatbot to streamline student enrollment, course management, and administrative processes. The system features a ReactJS front end with a Node.js and Express.js backend, connected to a MongoDB database for efficient data management. The AI chatbot, built in Python, leverages NLP techniques and deep learning models trained on university-related datasets to provide real-time assistance.

StoryLab *(React Native, Expo Go, OpenAI API)*
Developed an AI-powered storytelling application that generates unique and dynamic stories based on user prompts. The mobile app, built with React Native and Expo Go, communicates with an AI backend via a Flask-based REST API that processes natural language inputs using the OpenAI API. Integrated state management with Redux, optimized real-time responses through asynchronous API handling, and ensured seamless user experience.

Creatify *(Python, NLP, Deep Learning, Flask, REST API, Unity Backend)*
Engineered and implemented the AI-powered chatbot backend for Creatify during my internship at NETSOL's Unity Department. Designed a natural language processing (NLP) system leveraging deep learning models to facilitate context-aware and adaptive responses. Developed and optimized the chatbot's conversational engine using transformer-based models and integrated it with Flask-based REST APIs for seamless communication with Unity's front end.

CampusEye *(Python, OpenCV, React Native, Flask API)*
Developed a mobile-based campus navigation assistant that estimates a user's location without GPS using image-based landmark recognition and distance estimation. The system employs pre trained CNN models (MobileNet, ResNet) for building recognition and integrates OpenCV for image preprocessing. Distance estimation is achieved through object size comparison and triangulation methods. The final mobile app dynamically determines the user's location based on captured images and displays it on an interactive campus map.

Purify *(Python, Machine Learning)*
Designed and implemented an AI-driven air quality monitoring system leveraging machine learning algorithms to predict pollution levels with high accuracy. Trained and fine-tuned regression and classification models to analyze environmental data, enabling proactive pollution assessment. Integrated data visualization frameworks such as Matplotlib and Seaborn to present insights through interactive dashboards, facilitating data-driven decision-making for environmental monitoring and policy evaluation.

Technical Skills

Programming: Python, C++, C, C#, JavaScript, Typescript, HTML, CSS
Frameworks: ReactJS, Flutter, Unity3D, NodeJS, ExpressJS, Flask, MATLAB, Selenium
Databases: Microsoft SQL, MongoDB, Firebase