RUTHU RAJENDRA

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EDUCATION

Santa Clara University, Santa Clara, CA
Master of Computer Science, Dec 2024

- Relevant Coursework: **Machine Learning, Data Visualization, Pattern Recognition**, Computer Architecture, Algorithms Design and Analysis, Advanced Operating Systems, software Engineering

SKILLS

- Programming Languages: Python, JavaScript, Dart, C, C++, Java, HTML, CSS, JQuery, MySQL
- Framework: Flutter, ReactJS, Cheerios, Axios, ASP.NET, Django, Jupyter Notebook, SciKit Learn
- Technologies and tools: Eclipse, IntelliJ, Android Studio, Tableau, Git, Figma, Excel
- Machine Learning: TensorFlow, Keras, Scikit-learn, Pandas, NumPy, Matplotlib

EXPERIENCE

Software Developer

SCU Frugal Innovation Hub, Santa Clara, CA   Jan 2024 - Present

- Formulated detailed project specifications using flowchart and Designed the UI along with coded a bilingual math application for teaching complex math concepts in a fun and interactive way using Flutter and Figma for initial designs to ensure optimal compatibility and user experience
- Incorporated gamification features and multimedia content, increasing student engagement by 30%, by supporting math and language education for 5000 kids in Mexico
- **Implemented Translation API** in the backend using Python and Flask, enabling seamless conversion of educational content from English to Spanish, increasing accessibility for 5,000 students in Mexico.
- **Led development teams** in setting up environments and guiding processes, improve app stability by 25% through rigorous testing and debugging. Utilized **Agile** methodologies, including weekly customer meetings for iterative updates and feedback incorporation
- Collaborated with stakeholders to gather requirements and integrate user feedback into design iterations, improving app engagement by 30%

PROJECTS

Face Recognition Software

- Developed a face recognition system with 99% accuracy using **Python, OpenCV, Pandas and Dlib** , handling image preprocessing and data augmentation for diverse training data
- Conducted in-depth performance analysis of each trained model using **SVM**, **KNN**, **Random Forest**, identifying and addressing specific weaknesses, performed fine-tuning at multiple layers for optimal performance at scale, leading to an overall accuracy increase of 30% and ensuring consistent results across different face classification tasks
- Provided a detailed Data Analysis using classification reports and confusion matrices, achieving an accuracy rate of 92% on test datasets while visualizing results with Matplotlib to enhance Comprehensibility

AI-Powered Chat Application for skincare Recommendation

- Devised Developed a secure full-stack application with **React.js**, **Node.js** and **MongoDB**, featuring personalized quizzes and intelligent chatbot interactions using a fine-tuned **BlenderBot** model integrated via Hugging Face API
- Built REST APIs to manage chat history retrieval, quiz logic, and user preferences, enhancing backend efficiency and scalability
- Initiated a Engineered a responsive frontend with **React.js**, ensuring an intuitive user experience, seamless data handling and dynamic rendering across devices

Wildflower analysis around United States

- Engineered a sophisticated interactive visualization system for a diverse wildflower dataset of 10,000+ varieties, providing detailed categorization based on colors, zoning, and leaf types for nuanced insights
- Led development and data preparation phases of a comprehensive wildflower information web application, contributing to front-end development and UI/UX design. Utilized JavaScript libraries **Cheerio**, **Axios**, and **Tableau** for data scraping, cleaning, and visualization

Pneumonia Detection: X-ray Image Analysis and Detection

- Devised an application using Python for recommendation algorithms, Flask for web functionality, and **TensorFlow** for improving pneumonia diagnosis from X-ray images
- Initiated a robust Django application leveraging the VGG16 Convolutional Neural Network to analyze and classify pneumonia in 5,863 chest X-rays, achieving a classification accuracy rate exceeding 90% in initial tests

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

- Led a team of 10 staff members in establishing and managing dessert stalls, strategically implementing marketing initiatives based on customer feedback to enhance company's market presence
- Teamed up with an event planner to flawlessly execute over 20 events, presented innovative ideas to elevate event
- Led a team of four engineers in creating a comprehensive requirements document and software development plan