Surya Prakash Bhandari

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Skills

Languages: C/C++, Java**, Python, JavaScript**, Solidity, SQL

Technologies & Tools: Deep learning , Machine learning, Tensorflow , hugging face , AWS, EC2, DynamoDB, S3, SQS, Lambda, Kuber netes, Docker, ReactJS ,DevOps ,Flask, **Scikit-learn,Pandas, Numpy,Matplotlib, CV2 , NLM .**

Work Experience

Sync Ventures, Remote Sept 2023 – Nov 2023
Backend Developer Intern

- I have implemented the following technologies like Web Sockets,User Authentication Techniques in the projects
- **Database Management, Backend Development , Agile Development Environment** while in the internship..
- Contributed to sprint goals by delivering high-quality code and meeting deadlines
- Enhanced **user interaction** within applications by implementing efficient data broadcasting and receiving mechanisms.
- MySQL,Node.js,Express.js,Gauth,Laravel,Javascript, RestFull-API's , CICD.

Projects

- **Veda_V1(VIRTUAL ENTITY DYNAMIC AI:** Integrated **advanced facial recognition** technology using *OpenCV*, enabling the assistant to **authenticate** users **and personalize responses** based on visual identification.
  - Enhanced voice command**:** processing with **Python libraries** like **speech_recognition** and **pyttsx3**, ensuring seamless execution of commands with added support for **real-time speech-driven interactions**.
  - Implemented digit recognition**:** using **TensorFlow**, allowing the assistant to interpret and respond to numeric inputs, expanding the scope of voice commands and automation.
  - Engineered a comprehensive AI**:** assistant combining ***wikipedia*****, pywhatkit,** and **pyjokes** with additional functionalities, delivering a versatile and interactive **user experience**.
- **Alzheimer's Disease Prediction:** machine learning model to predict Alzheimer's disease based on medical data.
  - Developed Predictive Model: Built a **machine learning** model for Alzheimer's disease prediction using algorithms like **Random Forest and XGBoost** on the **ADNI dataset**, addressing common issues such as **overfitting and class imbalance**.
  - Performed Data Preprocessing**:** Processed healthcare data by handling **missing values, normalizing features, and conducting feature engineering, applying PCA** for **dimensionality reduction** to enhance model performance.
  - Optimized and Evaluated Model: Evaluated the model using metrics like **accuracy, precision, recall, and ROC-AUC, and fine-tuned hyperparameters** through grid search to **improve accuracy** while mitigating **overfitting**.
- **Sign Language Detection:**using computer vision and deep learning techniques to detect and classify sign language gesturesApplied.
  - Implemented CNN for Sign Language Classification: Developed a **Convolutional Neural Network** (CNN) using **TensorFlow/Keras**, leveraging transfer learning with **VGG16/InceptionV3** to classify sign language gestures from the ASL **Alphabet Dataset, addressing overfitting and class imbalance issues**.
  - Enhanced Image Processing Workflow: Applied **advanced image processing** techniques**, including resizing, normalization, and data augmentation (rotation, flipping, zooming), using OpenCV** to improve model robustness and prevent **overfitting** during training.
  - Optimized Neural Network Architecture: Tuned the **CNN** architecture by adjusting **hyperparameters**, incorporating **dropout and batch normalization, and mitigating** challenges like **vanishing gradients** to achieve higher accuracy and **reduce validation loss.**

Education

Dayananda Sagar University Jan 2021 - Jan 2025
B.TEch. in Computer Science and Engineering Specialization in AIML ***CGPA:7.86/10***

The above courses that I have successfully completed:

- Databases
- **DSA** and Advanced DSA
- **Data Mining and Deep learning**
- Discrete Maths and **Statistics**
- Operating Systems
- **ML and Probability**
- **Image Processing**
- Advance Data Structures and Algorithms
- **NLP and AI**