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SANDEEP BANDI

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PROFESSIONAL SUMMARY

- As an ML Engineer, I specialize in data processing, analysis, and validation, while demonstrating proficiency in designing and implementing cutting-edge Machine Learning and Deep Learning models to achieve optimal performance.
- I have extensive experience in developing and enhancing project lifecycles through efficient data pipeline creation, complemented by thorough analysis and clear, concise presentation of findings.
- Proficient in Python libraries such as Pandas, NumPy, SciPy, and scikit-learn for comprehensive data manipulation, analysis, and advanced ML and Deep Learning model implementation.
- Experienced in leveraging **Docker** for seamless containerization and integrating solutions with AWS EC2 for scalable deployments. Proficient in managing CI/CD pipelines to streamline the deployment process and ensure robust application performance.
- Dedicated to continuous improvement of ML models and backend processes, integrating the latest technologies such as TensorFlow, Flask, MLflow, and cloud services. Strong communication skills facilitate collaboration with cross-functional teams to deliver effective machine learning solutions tailored to diverse problem domains.

EMPLOYMENT

MLBackendEngineer   **Tata Consultancy Services**   **Jan 2022 to Feb2024**

M&G Prudential Project

- Collaborated closely with insurance industry clients to conceptualize and implement machine learning models, focusing on applications that enhance operational efficiency and customer service.
- Build the python data pipelines to convert large volumes of JSON data and xml-data to a linear format, grouped according to insurance model, resulting in increased efficiency and accuracy of data validation.
- Engineered data manipulation and analysis using Python libraries(Pandas,NumPy,SciPy,OpenCV,scikit-learn);
- Generic python modules were created in order to generate the evaluation metrics report for internal validation which gives the accuracy reports with respect to the scores for f1_score,r2_score,precision and recall.
- Implemented **Dockers pipelines** for seamless containerization and deployments.
- Integrated the pipeline architecture with AWS EC2 services.
- Actively pursued continuous improvement in ML models and backend processes.
- **Tools used**:Python3,fastapi,flask,streamlit,git actions, aws services, sql, mongodb, docker, generic models.

EDUCATION

Punjab,India   **Lovely Professional University**   **Aug2016 to June2020**

- Bachelor of Technology in CSE (data science)

TECHNICAL EXPERIENCE

Projects

- **Adult Census Income Prediction(POC)**(Mar2024**):** Designed and Implemented a scalable end-to-end machine learning pipeline, utilizing **MLOps** technology and developing a comprehensive website system for artifact management, alongside a Flask web application for binary income classification, deployed via an AWS CI/CD pipeline with **Docker**, **GitHub Actions**, **EC2**, and **ECR** integration.
- **Chicken Diseases Classification(POC)**(Dec2023): Developed end-to-end Deep Learning project focused on classifying chicken diseases, integrating modern MLops tools such as **DVC** (Data Version Control) for efficient management of data and models. The project culminated in deploying the solution seamlessly across Azure and AWS clouds using GitHub Actions, ensuring robust and scalable deployment pipelines for operational efficiency and performance optimization.
- **Gemstone Prediction (POC)** (Oct 2023): Developed a regression model system utilizing machine learning techniques such as RandomForest, DecisionTree and XGBoost, with a backend and frontend implemented using HTML, CSS, and Flask API. The application was containerized and deployed on AWS EC2 through integration with a CI/CD pipeline.
- **Flipkart Review Scrapper (POC)**(May 2023): Development of a web scraping project specifically designed to extract reviews from Flipkart, utilizing automated processes to gather and organize review data from various product listings on the platform. Upon completion, the project was successfully deployed on AWS Elastic Beanstalk.

TECHNICAL STACK

- *DS/ML/AI:* Machine Learning, Deep Learning, NLP.
- *MLFramework/Modules*: Sklearn, Tensorflow, keras, Numpy, Pandas, NLTK.
- *MlopsTools*: Mlflow,gitactions(CI/CD),BentoML.
- **Backend development**: Flask,fast api,streamlit,multiprocessing and multithreading,distributed computing.
- *ProgrammingandDBLanguages*: Python3,Mysql,Mongodb.
- *CloudbasedDeployment:* AWS,Azure,GCP, Git,Docker, ci/cd.

CERTIFICATIONS

- **Udemy** : Complete Machine Learning, NLP Bootcamp MLOPS & Deployment.
- **Ineuron**: Full Stack Data science Bootcamp 2.0.
- **Kaggle** : Python

INTERESTS

- **AI/ML**
- **Software Engineer**
- **Developer**