Rushikesh Nayakavadi

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Education

B.Tech Computer Science and Engineering Pune, India
Dr. Vishwanath Karad MIT WORLD PEACE UNIVERSITY
- CGPA: 9.04

Projects

Vehicle Insurance Processing System
Technologies: Python, FastAPI, MongoDB, ML, Docker, AWS (EC2, ECR, S3, IAM), GitHub Actions, DVC, MLflow

- Built an AI-driven system for automating vehicle insurance processes, including policy management, risk assessment, and fraud detection using Machine Learning.
- Integrated FastAPI for real-time user interaction and MongoDB for efficient data storage.
- Implemented CI/CD with GitHub Actions, containerized with Docker, and deployed on AWS EC2.
- Managed model versioning with DVC & MLflow for reproducibility. Added logging and monitoring for performance tracking.

Speech Emotion and Gender Recognition
Technologies Used: Python, Machine Learning (SVM, MLP) , Feature Engineering, Development (Streamlit)
- Developed a machine learning model that predicts a speaker's emotional state and gender from voice inputs.
- Collected and processed 5,000+ audio samples, applied noise reduction, normalization, and feature extraction (MFCCs, pitch), and trained the model using SVM and MLP classifiers.
- Deployed a Streamlit-based WebApp for real-time user predictions.

Spoiled Fruit Detection System
Technologies Used: Python (TensorFlow, Keras), Deep Learning (CNN), Image Processing, Model Evaluation
- Developed a CNN-based model to detect spoiled fruits with 87% accuracy using a dataset of 12,335 images.
- Applied image preprocessing and augmentation (shifts, zooms, brightness, flips) to improve model robustness.
- Designed a deep CNN architecture with convolution, pooling, dropout, and batch normalization for enhanced feature extraction and reduced overfitting.

Technical Skills & Tools

- **Programming & Frameworks:** Python (OOPs, Modular Coding), FastAPI
- **Code & Model Versioning:** Git, GitHub, DVC, MLflow
- **CI/CD & Automation:** GitHub Actions
- **Containerization:** Docker
- **Cloud & DevOps:** AWS (EC2, IAM, S3, ECR)
- **Monitoring & Logging:** Logging Module
- **Programming & Concepts:** C, C++, Python, SQL, OOPS, Data Structures & Algorithms, Problem-Solving
- **Artificial Intelligence & Machine Learning:** Machine Learning, Data Analysis, Data Visualization

Awards

- Winner, SmartIndia Hackathon 2024 (University Internal)
- Ranked among the top 20 teams in a Pune regional intercampus hackathon
- Winner, Smart India Hackathon 2023 (University Internal)
- Gold Medalist in the International English Olympiad 2018