POORNA MANIKANTA KANDIBOINA

AI /ML ENGINEER

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About Me

Disciplined AI / Machine Learning Engineer with an engineering background and professional service experience in the Central Reserve Police Force (CRPF).
Passionate about building end-to-end, production-ready AI systems, with hands-on experience in Machine Learning, Deep Learning, Computer Vision, and Generative AI.
Proven ability to take models from experimentation to cloud deployment using AWS, Docker, and CI/CD pipelines, with a strong focus on real-world impact and scalability.

Technical Skills

- **Programming&Data: Python, SQL, Pandas, NumPy**
- **MachineLearning: SupervisedLearning,Regression,Classifi-cation, Feature Engineering, Model Evaluation, Hyperparameter Tuning**
- **DeepLearning&CV: ANN,CNN,Mobilenet,Image Classification**
- **NLP&GenAI: RNN,LSTMRNN,GRU,Transformers,BERT, RAG,Embeddings,Vector Databases**
- **MLOps&Deployment: AWS(EC2, ECR), Docker, GitHub Actions, CI/CD, Streamlit**

Tools &Technologies

- **Python, SQL, Pandas, NumPy, Scikit-Learn**
- **Tensorflow, Keras**
- **Docker, Git, GitHub**
- **AWS EC2, ECR**
- **Streamlit, Power BI**

Education

- **Bachelor of Technology in ELECTRICAL & ELECTRONICS ENGG.**
- **Diploma in ELECTRICAL & ELECTRONIS ENGG.**

languages

English
Hindi
Telugu

Professional Summary

AI/ML Engineer with hands-on experience building and deploying end-to-end Machine Learning, Deep Learning, Computer Vision, and Gen AI systems. Strong in model development, optimization, and production deployment using AWS (EC2,ECR), Docker, and CI/CD pipelines.Experienced across the complete ML lifecycle and delivering production-ready AI applications via interactive web interfaces

Projects

1.Student Performance Prediction System (End-to-End ML AWS | CI/CD)

- **Tech: Python, SQL, Scikit-Learn, Docker, GitHub, AWS EC2, ECR, CI/CD**
- **Built a full end-to-end Machine Learning system to predict student academic performance**
- **using regression models**
- **Performed EDA,feature engineering,model training, hyperparameter tuning, and evaluation**
- **Trained and compared multiple regression models (Linear, Ridge, Lasso, Random Forest, Gradient Boosting)**
- **Achieved best model performance of ~92% R^2 score**
- **Implemented CI/CD pipeline using GitHub as source**
- **Containerized the application using Docker and deployed on AWS EC2 with ECR**
- **Designed the project following production-grade ML architecture**

2.CNN Binary Image Classification System (Computer vision | Deep Learning

- **Tech: Python, TensorFlow, Keras, CNN, MobileNet, Streamlit, Docker**
- **Built a binary image classification system from scratch using CNN**
- **Initial Custom CNN model achieved 56–60% accuracy**
- **Designed and trained an optimized CNN architecture, improving accuracy to~70–80%**
- **Applied Transfer Learning using MobileNet, achieving 90%+ training accuracy**
- **Clearly Demonstrated model improvement through architecture optimization**
- **Deployed the trained model as an interactive Streamlit web application**

3. RAG-Based PDF Chatbot (GenAI | NLP)

- **Tech: Python, LLMs, Embeddings, Vector Databases, RAG, NLP**
- **Developed a Retrieval-Augmented Generation (RAG) chatbot for PDF-based question answering**
- **Implemented document ingestion, text chunking, embedding generation, and vector search**
- **Integrated retrieved context into LLM prompts to produce accurate, grounded responses**
- **Reduced hallucinations compared to standard LLM chatbots**
- **Built an end-to-end GenAI pipeline suitable for real-world enterprise use cases**