

# POORNA MANIKANTA KANDIBOINA

## AI / ML ENGINEER

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## PROFESSIONAL SUMMARY

AI / Machine Learning Engineer with hands-on experience building and deploying end-to-end Machine Learning, Deep Learning, Computer Vision, and Generative AI systems. Strong background in model development, optimization, and production deployment using AWS, Docker, and CI/CD pipelines. Known for discipline, resilience, and continuous learning, with prior professional service experience in the Central Reserve Police Force (CRPF).

## SKILLS

**Programming & Data:** Python, SQL, Pandas, NumPy

**Machine Learning:** Supervised Learning, Regression, Classification, Feature Engineering, Model Evaluation, Hyperparameter Tuning

**Deep Learning & Computer Vision:** CNN, ANN, Transfer Learning, MobileNet, Image Classification

**NLP & GenAI:** Transformers, BERT, RAG, Embeddings, Vector Databases

**MLOps & Deployment:** AWS (EC2, ECR), Docker, GitHub Actions, CI/CD, Streamlit

## PROJECTS

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

- Built a full end-to-end ML system to predict student academic performance using regression models
- Performed EDA, feature engineering, model training, and hyperparameter tuning
- Achieved best model performance of ~92%  $R^2$  score
- Implemented CI/CD pipeline using GitHub Actions and deployed on AWS EC2 using Docker and ECR

### CNN Binary Image Classification System (Computer Vision | Deep Learning)

- Developed a binary image classification system using CNN from scratch
- Improved accuracy from 55–60% to 90%+ using MobileNet transfer learning
- Demonstrated performance improvement through architecture optimization
- Deployed the model as an interactive Streamlit web application

### RAG-Based PDF Chatbot (Generative AI | NLP)

- Built a Retrieval-Augmented Generation (RAG) chatbot for PDF-based question answering
- Implemented document ingestion, text chunking, embeddings, and vector search
- Integrated retrieved context into LLM prompts for accurate, grounded responses
- Designed an end-to-end GenAI pipeline suitable for real-world enterprise use cases

## PROFESSIONAL EXPERIENCE

### Central Reserve Police Force (CRPF) | 2021 – 2025

- Served in a high-discipline, high-responsibility environment
- Developed leadership, teamwork, and decision-making skills under pressure
- Transitioned into AI/ML through structured learning and hands-on projects

## EDUCATION

Bachelor of Technology (B.Tech) – Electrical & Electronics Engineering (2019)

Diploma – Electrical & Electronics Engineering

## LANGUAGES

English | Hindi | Telugu