

# MOTUPALLI JYOTHI SWAROOP

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**GitHub:** <https://github.com/jyothiswaroop-09>

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## Skills Summary:

Skilled in analyzing large datasets, deriving insights, and building end-to-end ML models using Python (NumPy, Pandas, Matplotlib, Seaborn) and SQL. Experienced in creating interactive dashboards for data-driven decisions. Hands-on with Generative and Agentic AI—LLMs, prompt engineering, fine-tuning, and RAG pipelines using OpenAI, Hugging Face, LangChain, LangGraph, LangSmith, and LangFlow for intelligent automation and workflow optimization.

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## EDUCATION :

**Master of computer applications (MCA)** (2022-2024)

(University college of science, saifabad, OU)

CGPA:8.20

**Bachelor Of Science (MPC)** (2019-2022)

(Sardar Patel Degree College, Secunderabad)

CGPA:8.57

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## Technical SKILLS :

- **Python & ML Tools:** NumPy, Pandas, Scikit-Learn; data visualization with Matplotlib & Seaborn.
- **Statistics & Math:** Hypothesis testing, ANOVA, probability, linear algebra.
- **Machine Learning:** Regression, Decision Trees, Random Forest, SVM, KNN, Naïve Bayes, XGBoost, AdaBoost, Lasso/Ridge, model tuning & evaluation.
- **Deep Learning:** ANN, CNN, RNN with TensorFlow, PyTorch .
- **Generative AI & Agentic AI:** Hands-on with LLMs, prompt engineering, fine-tuning, and RAG pipelines using OpenAI & Hugging Face; skilled in building AI workflows with LangChain, LangGraph, LangSmith, and LangFlow.
- **SQL:** Database design, queries, and DBMS concepts.
- **NLP:** Text preprocessing, vectorization (BoW, TF-IDF, Word2Vec) with NLTK.
- **Data Tools:** Advanced Excel (dashboards, pivot tables), Power BI (DAX, data modeling, reporting).
- **Version Control:** Git & GitHub for source code and collaboration.

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## PROJECTS:

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### Hotel\_Booking\_Prediction

Machine Learning | Flask | Scikit-learn | Pandas | HTML

- Built an ML model using Flask to predict student performance with **80% accuracy** using Random Forest.
- Designed an end-to-end pipeline (data ingestion, preprocessing, training, evaluation) for seamless deployment.
- Integrated real-time prediction interface and used pickle/joblib for model deployment.
- Applied GridSearchCV for hyperparameter tuning to improve model performance.

**GitHub:** [https://github.com/jyothiswaroop-09/Hotel\\_Booking-prediction.git](https://github.com/jyothiswaroop-09/Hotel_Booking-prediction.git)

## AI-Powered Document Chatbot (Docling + Ollama)

LLMs | Document Parsing | Streamlit | LangChain | FAISS | Hugging Face | Python

- Developed an interactive chatbot to answer queries from PDF/Excel documents using Docling for parsing and Ollama LLM for natural language understanding.
- Implemented text and table extraction, chunking, and embedding-based retrieval with FAISS for accurate context-aware responses.
- Built a Streamlit UI for seamless document upload and user interaction with real-time query handling.
- Integrated Hugging Face embeddings within a retrieval-augmented generation (RAG) pipeline, improving answer precision and reducing hallucinations.

**GitHub:** [https://github.com/jyothiswaroop-09/Q\\_A-chatbot\\_Docling\\_ollama.git](https://github.com/jyothiswaroop-09/Q_A-chatbot_Docling_ollama.git)

## Cat\_vs\_Dog\_Classification

Machine Learning | TensorFlow/Keras | CNN | OpenCV | Python

- Built a CNN model to classify **cats and dogs**, achieving high accuracy on the dataset.
- Performed data preprocessing including resizing, normalization, and augmentation to improve model performance.
- Designed an end-to-end pipeline for training, validation, and evaluation.
- Implemented optimization techniques like dropout, batch normalization, and early stopping to prevent overfitting.

**GitHub:** [https://github.com/jyothiswaroop-09/CNN\\_-Deep-Learning.git](https://github.com/jyothiswaroop-09/CNN_-Deep-Learning.git)

## Identification Of Human Movements Using Deep Learning

- Used high-memory GPUs to handle video datasets with preprocessing (resizing, normalization), boosting accuracy by **20%**.
- Built a video-to-action pipeline with **OpenCV, NumPy, TensorFlow**.
- Explored HAR methods, taxonomy, and challenges; showcased applications in surveillance, sports, and HCI.
- Future goal: develop context-aware recognition for complex activities (e.g., cooking, reading).
- **Tech Stack:** Python, TensorFlow/Keras, OpenCV, NumPy

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## R&D:

- Built and tuned ML models (Scikit-learn) with 80%+ accuracy for business decisions.
- Automated data workflows with Pandas & NumPy, cutting processing time by 30%.
- Created dashboards and visualizations (Matplotlib, Seaborn) for actionable insights.
- Developed LLM-powered applications, ChatBots and RAG pipelines using OpenAI, Hugging Face, LangChain, LangGraph, LangSmith, and LangFlow for intelligent automation.
- Delivered end-to-end Data Science, ML, Deep Learning, and Generative AI projects, demonstrating experimental prototypes and innovative solutions.

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## CERTIFICATIONS:

- Data Visualization Certified By Forage (TATA GROUP)
- Microsoft Office By (SET WIN)
- Full Stack Data Science Certification- VERSION IT