REDDY ROHIT

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Experience

AiBioChip **Dec 2024**
Research Intern *Remote*

- Performed time-series analysis on 7 years of stock market data using `yfinance`, `NumPy`, and `pandas`; designed candlestick pattern detection logic for Doji, Hammer, Morning Star, and automated trend analysis.
- Visualized technical indicators and market trends using `matplotlib` and `seaborn` to derive actionable insights.

Projects

Image Classification | *TensorFlow, CNN, Image Processing* **Aug 2025**

- Developed a CNN-based image classifier in TensorFlow to distinguish between cats and dogs using the Kaggle dataset.
- Applied image preprocessing techniques including resizing, normalization, and automated labeling from directory structure.
- Implemented Conv2D, MaxPooling2D, BatchNormalization, and Dropout layers for robust feature extraction and regularization.

Gemini Chat Application | *LangChain, Google Gemini, Streamlit* **Nov 2025**

- Built an AI-powered chat application using LangChain integrated with Google Gemini 2.5-Pro to generate high-quality responses.
- Implemented a reusable response generation function with secure API key handling through environment variables (.env).
- Developed an interactive Streamlit interface enabling real-time Q&A interaction with the LLM.
- Gained hands-on experience with prompt handling, model invocation in LangChain, and deploying lightweight LLM apps.

LLM Input Embedding Pipeline | *Tokenization, Embeddings, Transformer Architecture* **July 2025**

- Built an end-to-end input pipeline for GPT-like decoder-only transformers to convert raw text into model-ready embeddings.
- Tokenized text using a pretrained tokenizer (e.g., `AutoTokenizer`) and mapped token IDs into dense semantic embeddings.
- Integrated positional embeddings and prepared final input embeddings for transformer-based next-token prediction.

House Price Prediction Web App | *Machine Learning, Streamlit, Scikit-learn, EDA, Deployment* **Feb 2025**

- Built and deployed an end-to-end ML web application in Streamlit to predict Bengaluru house prices from user-input features.
- Implemented a scalable `scikit-learn` pipeline with `RandomForestRegressor` and `OneHotEncoder` for automated preprocessing and inference.
- Performed EDA and ETL operations including data cleaning, feature engineering, and outlier removal to improve model accuracy.
- Deployed the model and interactive UI on Streamlit Cloud for public access: live demo.

Startup Profit Prediction | *Python, Scikit-learn, Pandas, EDA, Regression, Statsmodels* **July 2025**

- Developed an end-to-end regression pipeline to predict startup profits, incorporating ETL, preprocessing, and feature engineering.
- Conducted EDA to identify correlations, detect inconsistencies, and improve model inputs.
- Implemented `Multiple Linear Regression` in `scikit-learn` and optimized predictors using backward elimination via `statsmodels`.
- Handled categorical variables with `OneHotEncoding` and documented the workflow in a reproducible Colab notebook (Colab Link).

Twitter Sentiment Notifier | *n8n, Hugging Face API, Twitter API, Telegram Bot, Docker* **June 2025**

- Developed an automated real-time sentiment analysis pipeline using Twitter API and Hugging Face's `roberta-base` model.
- Implemented ETL workflows in n8n for data extraction, sentiment inference, and structured output generation.
- Integrated Telegram Bot API for instant negative sentiment alerts, enabling proactive monitoring.
- Containerized and deployed the pipeline on a self-hosted n8n instance with Docker for scalability and reliability.

Education

Indian Institute of Information Technology Kottayam **Nov. 2022 – 2026**
B.Tech in Computer Science and Engineering *Kottayam, Kerala*

Technical Skills

Programming & Tools: Python, SQL, Shell Scripting, Git, GitHub, VS Code

Data Engineering & Cloud: AWS (S3, EC2), GCP (BigQuery, Colab), Docker, Streamlit Cloud, n8n

Machine Learning & AI: Supervised & Unsupervised Learning, Regression, Classification, Feature Engineering, Model Evaluation, NLP, CNN, RNN, LSTM, Computer Vision

Libraries & Frameworks: Scikit-learn, TensorFlow, PyTorch, Hugging Face Transformers, Pandas, NumPy, LangChains