Vasala Harinadha

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SUMMARY

A passionate data professional with strong foundations in Python, SQL, machine learning, and Large Language Models (LLM). Skilled in developing predictive models, optimizing workflows, and driving impactful decisions with data insights.

TECHNICAL SKILLS

Programming: Python, SQL
Libraries: pandas, NumPy, scikit-learn, Seaborn, Matplotlib
Deep Learning: TensorFlow, Keras, OpenCV (ANN, CNN, RNN)
Databases: PostgreSQL, MySQL, Oracle SQL
Data Visualization: Tableau, Power BI
ML Techniques: Supervised/Unsupervised Learning, Feature Engineering, Model Evaluation
AI Tools: LangChain, Large Language Models (LLM), RAG

EXPERIENCE

Data Science Trainee (Certification Program)   Sep 2024 – March 2025
MentorKart (Remote / Online)   *Certificate:* <u>View</u>

- Completed a 6-month Data Science program focused on machine learning, LLMs, and real-world applications.
- Utilized Python, pandas, NumPy, scikit-learn, LangChain, PyTorch, and TensorFlow for model development and data analysis.
- Gained expertise in supervised/unsupervised learning, including regression, classification, and clustering techniques.
- Built end-to-end projects with EDA, data preprocessing, and performance tuning.
- Developed deep learning models (CNN, RNN, ANN) for image classification, sequence modeling, and pattern recognition.
- Implemented Retrieval-Augmented Generation (RAG) and LLMs for creating a Medical Assistant Chatbot with context-aware responses.

PROJECTS

Heart Disease Prediction | *Python, Scikit-learn, Pandas, NumPy*

- Achieved 91% accuracy, surpassing industry benchmarks with a logistic regression model.
- Contributed to enhanced data security and potential reduction in breach risk by implementing HIPAA-compliant encryption
- Developed predictive models for disease detection, achieving over 25% improvement in diagnostic accuracy based on validation results.

AI Blog Generator | *LLaMA 2, LangChain, Streamlit*

- Built an AI blog generator for custom content targeting researchers, data scientists, and general users.
- Integrated PromptTemplate CTransformers for dynamic, context-aware prompt generation.
- Designed a responsive UI with real-time input, word count control, and audience-specific blog styling.
- Optimized model loading and caching, reducing average response time to 15 seconds.

Potato Leaf Disease Detection | *CNN, OpenCV*

- Developed a CNN model for detecting and classifying 3+ potato diseases.
- Preprocessed over 10,000 images using advanced data augmentation.
- Achieved 95% classification accuracy on test datasets.

Forecasting Employee Salaries | *Linear Regression, Random Forest*

- Achieved an R2 score of 0.85 using Linear Regression and Random Forest models.
- Conducted feature engineering, categorical encoding, and handled missing values.
- Predicted employee salaries with high precision based on experience and education.

Medical Assistant Chatbot | *RAG, FAISS, HuggingFace, Streamlit*
  – Developed a Medical Assistant Chatbot using FAISS vector store and HuggingFace embeddings, enabling efficient information retrieval and context-aware responses.
  – Implemented a Retrieval-Augmented Generation (RAG) approach to improve the chatbot's accuracy by dynamically retrieving relevant medical content.
  – Optimized chatbot performance using HuggingFaceInferenceEndpoint, ensuring fast and reliable responses for real-time medical queries.

EDUCATION

B.Tech in Electrical and Electronics Engineering   Sep 2021 – May 2024
Madanapalle Institute of Technology and Science   *Madanapalle, India*

Diploma in Electrical and Electronics Engineering   Jun 2018 – May 2021
Golden Valley Integrated Campus   *Madanapalle, India*

CERTIFICATIONS

Data Science (Mentorkart) Certificate Link

AI and Data Science Internship (Ybi Foundation) Certificate Link