PRIYANKA N

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Education

Bangalore Institute of Technology, Bengaluru   **2013-2015**
Master of Technology in Digital Electronics and Communication   *Visvesvaraya Technological University, Belgaum*

Dayananda Sagar College of Engineering, Bengaluru   **2009-2013**
Bachelor of Engineering in Electronics and Communication   *Visvesvaraya Technological University, Belgaum*

Volunteering Experience

Omdena - Global AI Collaboration Platform   **Remote**
AI Collaborator & Lead Machine Learning Engineer   *Jan 2024 – Jul 2025*

- **Spearheaded and contributed to 8 end-to-end AI/ML innovation projects** (18+ months of experience) across HealthTech, Computer Vision, and Geospatial AI, solving real-world challenges for international partners.
- **LLM Engineering & MLOps:** Designed and deployed **4 LLM-driven applications** using **CrewAI** multi-agent systems, **LangChain**, and **FastAPI** microservices, resulting in field-ready applications for mental health and travel planning.
- **Model Development & Optimization:** Fine-tuned LLMs (Mistral 7B) using **DPO** and **PEFT/LoRA**, and trained CV models (**U-Net segmentation**) and predictive models (**Random Forest Regressor**) for high-accuracy predictions.
- **Evaluation & Ethical AI:** Used **LangSmith** to rigorously evaluate LLM outputs based on critical metrics, including **groundedness, fairness, and bias**; championed the integration of cultural principles (GNH) into model design.
- **Technical Communication & Deployment:** Developed and delivered 5+ public-facing technical presentations and reports to stakeholders, summarizing complex data insights and model architectures; deployed all solutions via **Streamlit, Gradio**, and **Supabase** backend integration.

Key Projects:

- **Mental Health Assistant (Bhutan)** — Developed CrewAI-powered chatbot aligned with Gross National Happiness principles; integrated backend and frontend for personalized care.
- **Forest Fire Prediction (India)** — Led remote sensing data collection and built a forecasting model to predict next-day forest fire spread.
- **AI Travel Advisor (Paris Olympics)** — Created multi-agent trip planner and mental health advisor using CrewAI and LangChain for stress-free travel assistance.
- **Seagrass Mapping** — Built U-Net segmentation model on satellite imagery and deployed real-time mapping results via Streamlit.
- **Malaria Forecasting (Liberia)** — Predicted malaria-related deaths using Random Forest regression and deployed a multi-page predictive dashboard for policymakers.

Prior Work Experience

IBM India Private Limited | Senior System Engineer
Jan 2016 - Nov 2019

- Developer in Mainframe technology with 3.11 years of experience in JCL, CICS, DB2, Electronic Data Interchange(EDI) technology and WDI(Websphere Data Interchange) tool in supply chain domain mainly B2B gateways.

AI/ML Projects

MamaMind-Gentle Guidance for New Beginnings | *Large Language Models(LLM),RAG,Python,Prompt Engineering* 🌐

- MamaMind is an intelligent mental health chatbot designed to provide support and assistance to individuals experiencing perinatal depression. The application offers a range of functionalities tailored to help users understand, manage, and alleviate their mental health challenges through a friendly and supportive interface.
- Edinburgh Postnatal Depression Scale (EPDS) questionnaire is used to evaluate their depression severity. The responses are collected, scored, and analyzed to provide an accurate assessment of the user's mental health status.
- Retrieval-Augmented Generation (RAG) with query decomposition method to retrieve relevant information from a pre-built knowledge base of 84 PubMed articles, guideline documents recommended by OECD member countries related to perinatal depression and reliable resources such as WHO and NIMH. This ensures that the responses are contextually accurate and informative.

CSV Explorer | *Python, Exploratory data analysis* 🌐

- Developed a streamlit application which takes in a CSV file and generates the EDA report.
- Used ydata profiling python library which provides an in-depth analysis including missing data, correlation between variables, histogram and more.

Cuisine Genius | *Python, Large language models, Langchain, Streamlit* 🌐

- Developed a streamlit application using LLMs for generating ideas for a restaurant.
- Used Langchain framework for connecting with Google Palm model using the API. This application generates a creative name for the restaurant based on the cuisine type and also provides a sample menu.

Ask your PDF | *Streamlit, Langchain, FAISS, LLMs, RAG* 🌐

- Developed a streamlit application using LLMs(Google Palm) leveraging Langchain framework.
- Used Retrieval Augmented generation(RAG) to answer the questions using similarity search.
- This application uses RAG and LLM to retrieve the similar emdeddings and generate a response.

ContentCrafter: Blogging Made Effortless | *Langflow, Multi-agent Systems* 🌐

- Streamlit application for effortless blog generation given a topic. Integrated Langflow with APIs to fetch content, provide text-to-speech functionality, and enable blog downloads. Designed for seamless blog post creation using AI. Created using the sequential agents from CrewAI components on Langflow.

Tomato Disease prediction | *Deep learning, Convolutional Neural Networks(CNN)* 🌐

- Built a Convolutional Neural network model for prediction diseases in tomato plant.
- Trained 12804 images from Kaggle Plant village dataset with 10 classes.The dataset was split into train, test and validation sets and obtained an accuracy score of 89.69 percentage on the test dataset.
- Also, built a streamlit application for the same wherein the images of the tomato leaf can be uploaded and the prediction is done by the trained model.

Technical Skills

Languages: Python,SQL, Cypher
Tools: Microsoft Excel, Power BI, Dialogflow
Packages/Frameworks: Numpy, Pandas, Geopandas, Scikit-learn, Keras, Tensorflow, Seaborn, Matplotlib, Transformers, Langchain, Langflow, Neo4j, Streamlit, CrewAI, Git, Github, MLflow, Dagshub, Pytorch
Other Skills: Effective communication, Presentation, Team work, Leading a team, Problem Solving

Certifications and Hackathons

Hackathons

- Transformer's AI Chatbot Hackathon on Devpost - Among Top 5 Winners (Jun-July 2024)
- Langflow AI India Devs Hackathon (Sep-Dec 2024)

Certifications

- Neo4j Certified Professional, Issued by Neo4j (Aug 2025)
- Quantum Computing by CDAC, IIT Roorkee supported by MeiTY, Govt. of India (May 2025)

Courses

- Data Science Foundations - Level 1 by IBM
- Enterprise Design Thinking Practitioner by IBM
- IBM Automation Practitioner by IBM
- Introduction to AI and Machine Learning on Google Cloud
- Multi AI agents systems with crewAI by crewAI
- Mathematics by 365 Data Science
- Introduction to Data and Data Science by 365 Data Science

- Advanced NLP with Python for Machine Learning by Linkedin
- Skill Badge-Generative AI Fundamentals by Google Cloud
- Completion Badge - Introduction to AI and Machine Learning on Google Cloud by Google Cloud
- Microsoft Azure AI Fundamentals by Microsoft
- AWS Cloud Practitioner Essentials by AWS
- Orchestrating Workflows for GenAI Applications by DeepLearning.ai
- Graph Data Modeling Fundamentals by Neo4j