

ABHINAV BEHANIYA

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EDUCATION

VIT Bhopal University, Bhopal 2020 – 2025
Integrated M.Tech in Artificial Intelligence - CGPA - 8.5 Bhopal, Madhya Pradesh

PROJECTS

Conversational Gut Health Assistant ↗ | Python, LangChain, RAG, FAISS, Streamlit Feb 2025

- Architected a **Retrieval-Augmented Generation (RAG)** system to function as a gut health chatbot.
- Built an **end-to-end retrieval chatbot** in Python that discovers articles via **sitemaps**, cleans and chunks the text, **embeds with SentenceTransformers**, and searches quickly using a **FAISS vector index**.
- Added **safety guardrails** so the bot **avoids harmful or offensive content**: simple checks and a moderation step before answering.

Malaria Detection Using VGG19 Model ↗ | Python, TensorFlow, Keras, CNN, Streamlit Dec 2024

- Achieved **90% accuracy** in automated malaria detection by fine-tuning a **VGG19 transfer learning model** on a dataset of over **22,000 cell images**
- Executed **data augmentation techniques (rotation, flipping, zooming)** that reduced model overfitting and boosted classification accuracy on unseen data by **10%**.
- Developed and deployed an **interactive UI using Streamlit**, allowing for **real-time image upload and classification**.

Data-Driven Crop Prediction ↗ | Python, Machine Learning, Pandas, Scikit-learn, Fastapi Aug 2024

- Planned and trained machine learning models i.e (**RandomForest, KNN, Logistic etc.**) to predict crop with **95% accuracy** across a dataset of **10,000+ rows on crop prediction dataset** from **Kaggle**.
- Carry out feature engineering on diverse agricultural data, identifying key predictors that **improved model forecast accuracy by 15%** compared to baseline models
- Launched a **lightweight Fastapi** to serve model predictions, demonstrating the project's real-world applicability at the **ICML-ALGO conference**

BharatBazzar Ecommerce Project ↗ | React, Django, Django Rest framework, AWS S3 Mar 2024

- Made a e-commerce platform with a **decoupled React frontend and a Django REST Framework API**, improving code readability and speed.
- Implemented a secure **JWT authentication system** to manage user sessions and enable features like a persistent shopping cart and a efficient authentication process
- Setup a CI/CD pipeline for seamless **front-end (Vercel)** and **back-end (Railway)** deployments, using **AWS S3** for scalable media storage

TECHNICAL SKILLS

Languages: Python, C++, JavaScript, Java, SQL

Technologies/Frameworks: React, Django, Django Rest Framework (DRF), Langchain, FastAPI, Hugging Face, Streamlit, HTML5, CSS3, Bootstrap, Tailwind

Machine Learning & Data Science: Scikit-learn, Pandas, NumPy, TensorFlow, Computer Vision (CV), RAG, Crew ai, FAISS, Chromdb

Developer Tools: Git, AWS, VS Code, Postman, Github Copilot, Figma, google colab, Kaggle

CERTIFICATIONS

- Certificate of Presentation, 2nd International Conference on Machine Learning Algorithms (ICML-ALGO 2025)
- Machine Learning specialization by Andrew Ng

EXTRACURRICULAR

- President, Campus Blood Donation Drive (09-2023)
- Member, National Service Scheme (NSS) (2022 - 2024)