HARSH ABAKARI

AI developer

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EDUCATION

Mizoram University, Bachelor of Technology - Computer Engineering; CGPA: 8.5 — Nov 2021 - June 2025
Gurukul PU College, Class 12th; Percentage: 92.67% — July 2021
St. Mary School, Class 10th; Percentage: 90.24% — April 2019

SKILLS

- Languages : Python, C++, JavaScript, SQL
- Frameworks : TensorFlow, PyTorch, Keras, RAG (Retrieval-Augmented Generation), NodeJS
- Libraries : NumPy, Pandas, Scikit-learn, OpenCV, Matplotlib / Seaborn, Hugging Face Transformers, LangChain, Redux, React
- Tools : Google cloud platform, n8n, AI agents, Voice agents, Kubernetes, Git & GitHub, Postman , CI/CD, Jupyter Notebook
- Soft Skills : Problem-solving, Critical thinking, Communication, Leadership, Time management

EXPERIENCE

AI Agentic & Automation Engineer — August 2025 (Current)

Business Optima

- Developed and deployed AI-driven automation solutions using Google Cloud Platform and Gemini API to streamline business workflows.
- Built intelligent web scraping and Gmail automation systems for data extraction, analysis, and smart email management.
- Integrated multi-agent pipelines to enhance operational efficiency and enable AI-powered decision-making.

Project Intern — May 2025 - July 2025

IIT Madras

- Built a multimodal NDE assistant using Gemini 2.0, FAISS, LangChain, and Sentence Transformers with secure PDF/DOCX/TXT parsing and vector retrieval.
- Integrated BLIP-2 and Stable Diffusion for image QA and text-to-image generation in a CLI-based chatbot.
- Enabled encrypted ZIP handling, real-time logging, and conversational memory for context-aware answers.

AI Developer — Feb 2025 - April 2025

Sentics

- Worked on machine learning model training and image annotation for computer vision tasks at Sentics Germany, focusing on accuracy and efficiency.
- Contributed to the development of AI-driven solutions designed to enhance workplace safety and improve hazard detection systems.

Project Intern(Relationship Extraction) — July 2024 - Feb 2025

NIT Trichy

- Performed relationship extraction on text to identify and classify entity pairs with contextual accuracy.
- Annotated NER datasets and improved extraction quality through custom labeling and preprocessing.
- Applied the Kolmogorov–Arnold Network (KAN) for advanced entity recognition and relation mapping.

Summer Intern(Sentiment Analysis) — Jun 2023 - July 2023

IIT Guwahati

- Utilized the Google API to translate Sentiment-140, a dataset for sentiment analysis, into various Indian languages.
- Implemented and trained a sentiment analysis model on the translated dataset using CNN, BiLSTM, and GRU. IndicBERT, IndicFT, and MuRIL pre-trained embedding models for Indian languages were used for word embedding.
- Methodically assessed model efficacy through rigorous evaluation of accuracy, precision, F1 score, and recall metrics. Produced detailed reports summarizing model performance, contributing valuable insights into sentiment analysis in diverse linguistic contexts.

PROJECTS

AgriScan (Dragonfruit Stem Disease Detection)

- High-Accuracy Disease Detection – Achieved 95% accuracy using CNN, MobileNetV2, ResNet50, and ViT. Optimized
- Deep Learning Models – Advanced tuning improved performance on dragon fruit stem disease classification. Research
- Under Review – Findings contribute to precision agriculture and AI-driven plant disease diagnosis.

CryptoSent (Reddit-Based Sentiment Analysis)

- LLM-Powered Sentiment Analysis – Integrated VADER, TextBlob, and Transformers for ensemble sentiment scoring on Reddit posts.
- Interactive Dashboard Deployment – Built a real-time Streamlit app for crypto trend monitoring with visual analytics and entity extraction.
- Explainable AI Integration – Used Gemini LLM to generate reasoning for sentiment classifications, enhancing interpretability.

SmartRoute Vision

- Advanced Object Detection – Deployed YOLOv8x6 for real-time detection of pedestrians and vehicles with exceptional speed and accuracy.
- Intelligent Person Filtering – Applied spatial filtering to exclude people inside vehicles, ensuring only street-level pedestrians are tracked.
- Road-Aware Scene Segmentation – Integrated road edge and direction detection to auto-classify one-way vs two-way lanes for enhanced scene understanding.

Spotify Clone(MERN)

- Spotify Clone with MERN & TypeScript – Built a full-stack music streaming platform using MongoDB, Cloudinary, and Clerk.
- Feature-Rich Experience – Includes real-time chat, admin dashboard for album/song management, and live user activity tracking.
- Interactive UI – Volume control, song navigation, user presence status, and real-time analytics for an immersive experience.

CERTIFICATIONS

- Certificate in Introduction to AI and Machine Learning (Google Cloud)
- Professional Certificate in Career Essentials in Generative AI (Microsoft and LinkedIn)
- Certificate in Google Analytics (Google)
- Professional Certificate in Deep Learning (IBM)
- Certificate in Responsive Web Design (freeCodeCamp)
- Certificate for Student Skill Development Programme on 3D Printing (PEC-AICTE IDEA Lab)
- Certificate of Completion in Cybersecurity (NIELIT)
- Certificate of Completion Data Visualisation: Empowering Business with Effective Insights (TATA Forage)