KUSHRAJSINH ZALA

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Professional Summary

AI/ML Engineer with a robust background in Large Language Models (LLMs), RAG architecture, and
Generative AI. Skilled in building real-world solutions using LangGraph, LangChain, LangSmith,
Transformers, and vector-based retrieval systems. Proven ability to integrate LLMs into web applications
using Python, Streamlit, webscraping and Django. Completed impactful internships at Petpooja and Zidio Development, delivering intelligent systems including personalized assistants and chatbots. Passionate about creating production-ready, scalable AI tools.

Education

Bachelor of Engineering – AIML
L.J. Institute of Engineering and Technology

CGPA Summary:
Semester 1: 5.94 Semester 2: 5.27
Semester 3: 5.92 Semester 4: 5.44
Semester 5: 5.86 Semester 6: 7.45
Semester 7: 6.50 Semester 8: 8.53

Overall CGPA: 6.24 / 10

10th & 12th (Science, Group A): Brahmanand Vidhyalaya, Dhrangadhra – 80% (Both)

Experience

Data Science Intern – Petpooja (Apr 2025 – Oct 2025)
• Gained hands-on experience with advanced AI frameworks including LangChain, LangGraph, and
LangSmith, focusing on Generative AI and agentic workflows.
• Explored and analyzed Petpooja's internal model pipelines, enhancing understanding of real-world
production AI systems.
• Studied end-to-end deep learning workflows and model deployment strategies used in large-scale
platforms.
• Strengthened skills in designing and building scalable AI models aligned with real business use
cases.

Data Science Intern – Zidio Development (Oct 2024 – Dec 2024)
• Worked on customer segmentation and clustering algorithms using K-Means and visualization
libraries.
• Performed EDA, handled large CSVs, and derived insights for data-driven decisions.
• Built predictive scripts and assisted in ML evaluation for early-stage prototypes.

Projects

RAG-Based Document Chatbot

Built a document-aware chatbot using LangChain, FAISS, and Groq's LLaMA 3. Supports PDF upload,
chunking, BGE embeddings, semantic retrieval, and context-aware QA via a Streamlit UI.

LangGraph ChatFlow with Memory Retention System
Multi-threaded assistant using LangGraph and Gemini 1.5 Flash with SQLite-based memory
checkpointing. Includes dynamic thread naming and multi-turn memory in a Streamlit UI.

AI Game Agent (Number Guesser and Word Guesser)
An interactive AI game agent designed to play a number-guessing game with you. It uses strategic algorithms to efficiently guess numbers, providing an engaging and challenging interactive experience. Built using LangChain, LangGraph, and FastAPI for smooth and responsive interactions.

Real-time Car Detection (YOLOv8)
A high-performance real-time car detection system built with YOLOv8. It accurately identifies and tracks vehicles in live video feeds, perfect for traffic monitoring, autonomous driving research, or surveillance applications.

Finance AI Agent with News Guidance
A smart AI agent designed for financial analysis and guidance, integrating the latest financial news to inform its recommendations. It helps users track investments, understand market movements, and make informed decisions with up-to-the-minute insights. Built using the Phi Data Framework and displays live news sources for transparency.

Face Recognition Attendance System
An automated attendance system that uses OpenCV for real-time face recognition. It eliminates manual entries by accurately identifying individuals from a video feed, ideal for academic or corporate environments.

Portfolio Personal Assistant Chatbot
Embedded on portfolio using LangChain + FastAPI. You are currently interacting with it — a live example of how conversational RAG systems function in real time. It answers queries about CV, education, and project history using restricted, embedded personal data.

Skills
• Languages: Python, JavaScript, TypeScript, Java
• LLM & AI Frameworks: LangChain, LangGraph, LangSmith, Transformers, RAG, FAISS, Hugging
Face, OpenAI API, Gemini API, Groq API
• AI Tools: ChatGPT, Gemini, GitHub Copilot, Perplexity AI
• Frontend: React.js, Next.js, HTML5, CSS3, Tailwind, Bootstrap
• Backend: Django, Flask, RESTful APIs
• Databases: PostgreSQL, MongoDB, SQLite, SQL
• Dev Tools: Streamlit, Git, GitHub, Power BI, VS Code

Certifications
• Machine Learning with Python – IBM
• Building Generative AI-Powered Applications with Python – IBM
• Back-End Development with .NET – Microsoft
• Data Structures – University of California, Santa Cruz
• HTML, CSS, and JavaScript for Web Developers – Johns Hopkins University
• C for Everyone: Programming Fundamentals – University of California, Santa Cruz
• Algorithmic Thinking – Rice University