Karan Jadhav

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Summary

Computer Science undergraduate at PES University (8.91 CGPA) with a strong interest in Generative AI, machine learning, and full-stack development. Experienced in academic AI research through an internship focused on adversarial LLM attacks and in building practical applications like the "Intelligent Disaster Response Agent" and "GenMark" personalized ad generator. Skilled in Python, the MERN stack, FastAPI, and modern AI technologies such as LangChain, LangGraph, and RAG. Looking to apply these skills to contribute to meaningful work and solve real-world challenges in an internship or entry-level role and continue to learn and grow.

Education

○ **PES University** 2022 – 2026
B.Tech in Computer Science and Engineering
CGPA: 8.91
2x MRD Scholarship, 3x CNR Scholarship

○ **Deeksha Centre For Learning (DCFL)** 2020 – 2022
Higher Secondary Education (12th) – Percentage: 95%

○ **Delhi Public School, Bangalore South** 2007 – 2020
Secondary Education (10th) – Score: 92%

Experience

AI Research Intern *Bengaluru, KA*
Center for Information Security, Forensics, and Cyber Resilience *Oct 2023 – July 2024*

○ Researched and analyzed adversarial attack techniques on Large Language Models (LLMs), including prompt injection, jailbreak methods, and optimization-based strategies.

○ Evaluated the effectiveness of modern LLMs by implementing and testing over 25 state-of-the-art attack frameworks like AutoDan, DeepInception, etc., simulating attack scenarios to analyze key vulnerabilities.

○ Authored a 20-page technical survey that deconstructed over 25 adversarial attacks, creating a vulnerability analysis, providing a comprehensive knowledge base for future research.

Projects

Intelligent Disaster Response Agent *Github* ↗

○ Developed a real-time disaster response platform using Streamlit, Folium, and agent-based LLMs BERT, RoBERTa (Finetuned using Tweet Disaster Dataset), T5 for multilingual disaster detection, urgency classification, and entity extraction. Automated social media data extraction with Selenium, integrated speech-to-text enabled chatbot, and RAG-based event summarization.

GenMark – AI-powered Personalized Ad Generator *Github GenMark* ↗

○ Developed a full-stack, AI-powered advertising content creation platform with multimodal content generation (text, images, videos), reducing campaign creation time from 2-3 days to a few minutes.

○ Implemented intelligent multi-agent system using LangGraph, integrating Gemini-2.5-flash, Llama-3.1-8B and Predis API to automate multi-channel ad generation.

○ Developed a secure, end-to-end campaign workflow with JWT authentication, GridFS for file storage, live-editing capabilities, and automated email distribution via SMTP to streamline ad deployment.

○ Built with React.js, FastAPI, MongoDB Atlas, GridFS; deployed via Vercel (frontend) and Render (backend) with UptimeRobot monitoring.

○ Live: gen-mark.app ↗

RAG for Contextual Question Answering, Summarization

- Developed a system with LangChain, ChromaDB, OpenAI embeddings.
- Enabled intelligent retrieval across various document formats.

Criminal Database Management Application
- Built using React, MySQL, RESTful APIs.
- Streamlined crime reporting, evidence tracking, investigation management.

Dog Supplies E-commerce Web Application
- Full-stack MERN app for pet product e-commerce.

Skills

Languages: Python, C++, C, Java, Go

Web Dev: React, HTML, CSS, MERN, Javascript, Typescript, MySQL, MongoDB, FastAPI, Flask

AI: ML, DL, Numpy, Pandas, SciKit-Learn, NLP, GenAI, OpenCV, Langchain, Langgraph, RAG

Others: Arduino, Selenium

Soft Skills: Research, Teamwork, Communication, Time Management

Achievements

Epsilon TeXpedition Hackathon   *Ongoing*
- Shortlisted for Final Round (Top 10 teams) of TeXpedition 2025 organized by Epsilon with more than 100+ registrants.

Courses

- Machine Learning Specialization – Stanford University, DeepLearning.AI
- Python for Computer Vision with OpenCV and Deep Learning – Udemy
- NLP with Generative AI – PESU IO

Languages

English (Fluent), Hindi (Proficient), Kannada (Proficient)