Parth Saxena

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EDUCATION

Vellore Institute of Technology, Bhopal   Apr 2022 – Present
Integrated M.Tech in AI (5 years) (CGPA: 8.44)   *Bhopal, Madhya Pradesh*

EXPERIENCE

Vellicate Technologies Pvt. Ltd.   May 2025 – Dec 2025
Software Development & AI Intern (On-site)   *Bangalore, India*
- Built a scalable Agentic AI system using LangChain, Gemini API, and FAISS to autonomously retrieve, reason, and respond to complex queries, delivering 98% retrieval accuracy and reducing user resolution time by 70%.
- Designed and implemented a scalable community management platform with structured backend pipelines and an NLP-powered chatbot, enabling events, announcements, and query handling for 1,000+ active users.
- Implemented end-to-end e-commerce functionality (Razorpay integration with 99%+ payment reliability) and enhanced the LMS using AI tools (ElevenLabs) to support multilingual audio, subtitles, video enhancement, and noise reduction.

Rekniq Consultants   Jan 2025 – Mar 2025
Web Development Intern   *Bhubaneswar, India*
- Led the web development and UI/UX redesign of the corporate website, improving visual consistency, navigation flow, and content accessibility.
- Developed and deployed new web features and components, improving site performance, responsiveness, and overall user engagement.
- Delivered a client-facing e-commerce website from scratch, delivering scalable frontend layouts and complete end-to-end functionality for real-world business use cases.

PROJECTS

Anemia Detection using Conjunctiva Images | *Python, ML, OpenCV, TensorFlow, Keras*
- Achieved 93% accuracy in predicting anemia disease using CNN and 95% post-scaling with Random Forest Classifier.
- Gathered a comprehensive dataset of conjunctiva images containing 4,262 images across both anemic and non-anemic classes, ensuring data quality and integrity through preprocessing steps.
- Employed Random Forests for classification, leveraging extracted features of CNN to accurately identify anemic conditions from images.
- Secured a 96% recall rate for anemia detection using Random Forest, demonstrating robust algorithmic implementation.

PaperMind: AI Research Assistant | *Python, RAG , LangChain, Gemini API, FAISS, Streamlit*
- Architected and deployed a production-grade Retrieval-Augmented Generation (RAG) system using LangChain and Gemini 2.5, reducing research analysis time by 70% through automated knowledge extraction.
- Engineered FAISS vector search pipelines for semantic retrieval, achieving 98% accuracy on 25+ research papers.
- Optimized embedding pipelines by leveraging RecursiveCharacterTextSplitter and custom batch processing with exponential backoff, reducing embedding latency by 45% and ensuring 100% reliability against API rate limits.
- Developed a Streamlit interface with persistent session memory and a Hybrid Search Strategy, enhancing research workflow efficiency by 50%.

TECHNICAL SKILLS

Languages: Python, C++, SQL
Frameworks: NumPy, Pandas, Scikit-learn, Keras, TensorFlow, Keras, NLTK, LangChain, LangGraph
Tools & Others: Git, GitHub, AWS, REST APIs, OpenCV, LangFlow

ACHIEVEMENTS & EXTRACURRICULAR ACTIVITIES

- Published a research paper on AI-powered anemia detection using CNN and Random Forest in TANZ Journal (Scopus & UGC Approved), Vol. 20, Issue 08, 2025.
- Led my team to the Semi-finals of the Bharat GenAI Challenge, organized IIT Bombay.
- Leadership: Drove PR and secured sponsorships across 2 student clubs, leading 10+ successful events.
- Completed *Applied Machine Learning in Python* (University of Michigan, Coursera).
- Completed *Cloud Computing* (IIT Kharagpur, NPTEL).