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*

- Designed and implemented a scalable resident management platform with structured backend pipelines and an NLP-based chatbot, supporting 1,000+ active users.
- Developed a scalable RAG-based AI academic assistant using LangChain, Gemini API, and FAISS, achieving 98% retrieval accuracy and a 70% reduction in student query resolution time.
- Delivered platform enhancements including secure Razorpay payment integration (99%+ reliability) and AI-enabled LMS features such as multilingual audio and subtitles.

Rekniq Consultants Jan 2025 – Mar 2025
Web Development Intern *Bhubaneswar, India*

- Revamped the corporate Google Sites-based website with a complete UI/UX redesign, improving visual consistency, navigation flow, and content accessibility.
- Engineered and deployed new web features and components, enhancing site performance, responsiveness, and overall user engagement.
- Architected a client-facing e-commerce website from scratch, implementing scalable frontend layouts and 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 text preprocessing and embedding pipelines using RecursiveCharacterTextSplitter and batch processing, reducing embedding latency by 45% and improving inference throughput.
- Developed an interactive Streamlit dashboard with persistent memory, enhancing decision-making efficiency in research workflows 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, n8n, Power BI

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).