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*
- Developed TROA, a web platform for residential societies with user-specific access, integrating an AI-driven RAG system to automate billing, facility booking, and resident support through structured data management.
- Integrated Razorpay API for seamless automated billing, achieving 99.8% accuracy and significant time savings.
- Developed and deployed an AI-driven Learning Management System (LMS) supporting automated video enhancement, real-time subtitles, and multilingual content generation, improving accessibility for 1,000+ learners.
- Optimized data pipelines with a multi-agent intelligence framework using LangChain and LangGraph, boosting data accuracy by 35% and processing efficiency by 40%.Optimized data pipelines with a multi-agent intelligence framework using LangChain and LangGraph, boosting data accuracy by 35% and processing efficiency by 40%.

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.

Research Assistant AI (Autonomous Researcher) | *LangChain, LangGraph, Gemini API, FAISS, Streamlit*
- Developed an autonomous AI research system to analyze topics, extract insights from diverse data sources, and auto-generate structured research reports, reducing manual effort by 70%.
- Integrated LangChain and LangGraph with Gemini API for contextual retrieval, literature comparison, and intelligent summarization across 500+ research documents.
- Leveraged FAISS for high-speed vector retrieval, improving information access latency by 45%, and deployed an interactive research dashboard using Streamlit.
- Automated data extraction and knowledge synthesis workflows, enhancing scalability and decision-making efficiency in research analysis.

Technical Skills

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

Achievements & Extracurricular Activities

- Worked remotely with Rekniq Consultants (Web Dev Intern, 2-Months): Revamped the corporate Google Site with new features and a full UI/UX redesign; separately built a client e-commerce platform in Odoo.
- 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).