

Siddharth Bayapureddy

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EDUCATION

BITS Pilani, Hyderabad Campus

Hyderabad, TS

Bachelor of Engineering in Computer Science (CGPA: 9.13/10)

Aug. 2024 – July 2028

Relevant Coursework: Data Structures & Algorithms, Data Mining, DBMS, OOPs, Discrete Structures

PROJECTS

FaultSense | *Python, PyTorch, LangGraph, ChromaDB, Mistral*

- Built an agentic predictive maintenance pipeline on NASA CMAPSS for anomaly detection, LSTM-based remaining useful life prediction, retrieval, and automated diagnosis report generation
- Trained a 2-layer LSTM on 20,000+ sliding-window samples and achieved ~12-cycle RMSE for RUL prediction; integrated it into a 4-node LangGraph workflow with a persistent ChromaDB vector store
- Studied conflicting context drift in a multi-agent setting to analyze how inconsistent retrieved context affects downstream diagnosis behavior and system reliability

SparseSynth | *Python, Stable Diffusion, LoRA, Meta-Learning, PyTorch, Transformers*

- Built a meta-learning pipeline that takes 30–40 reference images for a concept and synthesizes 500+ training samples to address low-data constraints
- Designed a Transformer-based aggregator that encodes reference images into a unified representation and predicts task-specific LoRA weights without per-concept fine-tuning
- Injected predicted LoRA adapters into a Stable Diffusion backbone to condition image generation on unseen concepts at inference time and support few-shot generalization

vorp | *Python, LiteLLM, RAG, ChromaDB, Typer, Rich, PyPI*

- Built a terminal-based AI agent for file operations, codebase Q&A, and developer workflows through natural language commands
- Used LiteLLM to route across multiple LLMs based on task requirements while maintaining persistent chat history and conversation storage
- Integrated a ChromaDB-backed RAG pipeline to enable semantic retrieval over local codebases and documents

TECHNICAL EXPERIENCE

ACM Member – GenAI & ML

Sep. 2025 – Present

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- Built a face anonymizer using flow matching to perform low-latency, real-time masking with fewer sampling steps than diffusion-based methods
- Developed a resume screener that analyzes student resumes and maps profiles to expected PS-II and placement trends, generating actionable feedback

Lynq Member – Agentic AI

Sep. 2025 – Present

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- Built an agentic fest-budget tracker to verify purchases, cross-check bills, and streamline expense validation workflows
- Integrated crawl4ai to scrape real-time market prices and compare them against submitted receipts, automatically flagging pricing mismatches

Technical Team Member – Innovation Cell

Sep. 2024 – May 2025

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- Led a backend development workshop on FastAPI, REST APIs, database integration, and deployment, and mentored students through hands-on Python exercises

TECHNICAL SKILLS

Languages: Python, Java, C, C++, SQL

Frameworks & Libraries: PyTorch, scikit-learn, Hugging Face, LangChain, LangGraph, LiteLLM, Stable Diffusion, LoRA, FastAPI, Typer, Rich

Databases: PostgreSQL, ChromaDB, Supabase

Developer Tools: Git, GitHub, Docker, VS Code, Jupyter Notebooks, Postman, crawl4ai