

Rachamallu Vibhas Reddy

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EDUCATION

Nitte Meenakshi Institute of Technology <i>B.Tech in Artificial Intelligence & Machine Learning (CGPA: 8.09 / 10)</i> • Relevant Coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, Database Management Systems, Machine Learning, Deep Learning, Natural Language Processing.	Bengaluru, KA Aug. 2023 – Jul. 2027
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TECHNICAL SKILLS

Languages: Python, Java, SQL, C AI & Agent Workflows: LangChain, LangGraph, Agentic RAG, FAISS, BM25, Pydantic, Tool Calling, Context Management Backend & Systems: FastAPI, RESTful APIs, PostgreSQL, Neo4j, MySQL, SQLite, JDBC, Servlets/JSP, MVC, Concurrency Developer Tools & Core: Git, Linux, Docker Fundamentals, Postman, VS Code, OOP & Design Patterns, OS, DBMS

EXPERIENCE

Software Engineering Intern <i>GlobalLogic</i> • Built and tested backend RESTful APIs in Python for an internal analytics platform, automating data ingestion, aggregation, and reporting workflows. • Designed a Neo4j graph database schema and authored Cypher queries across multiple entities, accelerating relationship lookups over nested SQL joins. • Added robust error-handling, request validation, and structured logging to prevent silent failures and ensure pipeline data integrity during upstream syncs. • Collaborated in an Agile sprint environment alongside frontend and QA engineers to debug integration issues and ship reliable bi-weekly releases.	Jul. 2025 – Aug. 2025 Bengaluru, KA
Hackathon Lead & Competitor <i>National & Regional Hackathons</i> • Winner, Smart India Hackathon (SIH): Led a team of 4 to design and deploy a working civic prototype for a government problem statement in 36 hours. • Top 40 / 350+ Teams (IIIT Dharwad Hackathon): Built and pitched a functional full-stack MVP under a 24-hour time constraint starting with zero prior codebase. • TON Society Hackathon: Developed a decentralized application prototype with custom smart contract logic and responsive UI, earning organizer recognition.	2023 – Present Bengaluru, KA

PROJECTS

Kelp Launcher – Desktop Search Engine <i>Rust, SQLite, Webview (wry), Windows API</i> GitHub Live 2025 – Present • Architected a keyboard-driven desktop search launcher in Rust, achieving sub-millisecond search across 10,000+ files with zero idle CPU and minimal memory footprint. • Engineered a 6-signal ranking engine using the Strategy pattern (exact, prefix, acronym, CamelCase, recency decay, path depth) for contextual prioritization. • Implemented concurrent background indexing and live event watching via Windows APIs (<code>ReadDirectoryChangesW</code>), thread-safe <code>RwLock</code> , and batch SQLite writes.	
SafeCDS – Neuro-Symbolic Clinical RAG <i>Python, LangChain, LangGraph, FastAPI</i> GitHub 2025 – Present • Built a neuro-symbolic clinical pipeline combining LLM reasoning with deterministic OWL 2 DL verification (HermiT reasoner) to eliminate medical hallucinations. • Implemented hybrid retrieval fusing dense semantic vectors (FAISS) and sparse keyword search (BM25) via Reciprocal Rank Fusion (RRF, $k = 60$) for guideline extraction. • Built a cyclic self-correction state machine in LangGraph with strict Pydantic schemas, autonomously re-prompting violated clinical rules before human escalation.	
Helpdesk Support Ticket Automation System <i>Java, Servlets, JSP, JDBC, PostgreSQL</i> GitHub 2026 • Developed a full-stack ticketing system from scratch in plain Java (Servlets, JSP, JDBC) using MVC and DAO patterns to master low-level database lifecycles. • Designed a normalized 3NF PostgreSQL schema; built custom PriorityEngine (weighted keyword scoring) and SLAEngine for automated ticket triage. • Implemented BCrypt password hashing (cost factor 12), secure session management, and asynchronous AJAX polling for live ticket updates and search suggestions.	

LEADERSHIP & EXTRACURRICULARS

Vice President Oasis Gaming & Development Club <i>Nitte Meenakshi Institute of Technology</i> • Lead technical workshops on game development, Git version control, and core software engineering, mentoring 50+ junior students on clean code architecture. • Coordinate operations, scheduling, and event logistics for intra-college technical hackathons and competitive gaming tournaments with 50+ participants.	2024 – Present Bengaluru, KA
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