

Lohith M

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Professional Summary

Backend-focused engineering student building scalable real-time systems and AI-powered developer tools. Open-source contributor to Apache Airflow with multiple merged pull requests in a large-scale production codebase. Experienced in designing WebSocket-based systems, containerized execution environments, and RAG pipelines for semantic search. Strong foundation in system design, APIs, and performance optimization, with a focus on building efficient and production-ready applications.

Technical Skills

Languages – Python, Java, C, JavaScript

Frontend – HTML, CSS, React.js, Tailwind CSS

Backend – Node.js, Express.js, REST APIs, WebSockets (Socket.IO)

Databases – MySQL, MongoDB, Firebase

Tools & DevOps – Docker, Git, GitHub Actions, Linux (WSL)

Core Concepts – Data Structures & Algorithms, System Design, RAG, Vector Databases

Experience

Open Source Contributor

Apache Airflow – Apache Software Foundation

*Remote
2025 – Present*

- Contributed multiple merged pull requests to Apache Airflow (50k+ GitHub stars), improving UI components, fixing import-path inconsistencies, and enhancing documentation accuracy.
- Worked within a large-scale distributed Python codebase, following strict code review standards and collaborating asynchronously with global maintainers.
- Strengthened understanding of production-grade systems, modular architecture, and maintainable code practices.
- Merged PRs:** github.com/pulls?q=is:pr+author:Lohith625+is:merged

Full Stack Web Development Intern

Mopact

*Remote
Feb 2026 – March 2026*

- Built and enhanced full-stack applications using React, Node.js, and MongoDB with secure JWT-based authentication and role-based access control.
- Designed and implemented RESTful APIs optimized for scalability and maintainability in production environments.
- Contributed to cloud-integrated deployments and improved application reliability through structured backend architecture.

Projects

DevCollab – Real-Time Collaborative Coding Platform

- Engineered a real-time collaborative coding platform using WebSockets (Socket.IO) with room-based architecture supporting 10+ concurrent users.
- Achieved ultra-low latency (1–5 ms) for real-time code synchronization through optimized socket event handling.
- Built a Docker-based sandboxed execution engine enabling secure code execution in isolated containers (1–1.3 seconds runtime).
- Designed scalable backend APIs and authentication workflows for managing sessions, rooms, and concurrent interactions.

Tools: React, Node.js, Express.js, Socket.IO, MongoDB, Docker, JWT

Pixora – Full Stack Image Sharing Platform

- Developed a full-stack image sharing platform with Google OAuth and JWT authentication supporting secure user workflows.
- Integrated Cloudinary CDN for efficient media storage, transformation, and fast global content delivery.
- Designed responsive frontend using Tailwind CSS and optimized backend APIs for handling media uploads.

Tools: React, Node.js, Express.js, MongoDB, Cloudinary, JWT

Codebase Q&A using Retrieval-Augmented Generation (RAG)

- Built a RAG-based developer tool enabling semantic search across 4,300+ indexed code chunks using vector embeddings.
- Achieved fast query latency (~11ms) using FAISS – based retrieval and optimized embedding pipelines.
- Designed end-to-end architecture integrating FastAPI, LangChain, and LLM APIs for intelligent code understanding.

Tools: Python, FAISS, Pinecone, LangChain, FastAPI, LLMs

Education

B.E. in Computer Science and Engineering

BGS Institute of Technology, Mandya

CGPA: 8.88

2022 – Present

Class 12 – Masters PU College, Hassan

96.33% | 2021

Class 10 – Holy Cross Sisters School, Hassan

92.16% | 2019

Certifications & Achievements

- Programming in Java** – NPTEL *2024*
- AI Fluency for Students** – Anthropic *2026*
- Unix and Linux Fundamentals** – Infosys Springboard
- Smart India Hackathon 2023 ; Girl Geek Hackathon 2023** – Participant