

BHOOMPALLY KALYAN REDDY

AI & MULTI-AGENT ENGINEER

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Portfolio & Demos: [kalyanport.netlify.app](#) | GitHub: [github.com/kalyan-1845](#) | LinkedIn: [linkedin.com/in/bhoompally-kalyanreddy](#)

PROFESSIONAL SUMMARY

Driven 3rd-year Computer Science student targeting remote AI Engineering or Multi-Agent Developer internships. Differentiated by published emergency navigation research (Sarathi system) and founder-level experience building autonomous CrewAI agent workflows and local RAG pipelines running Ollama.

CORE SKILLS

CrewAI RAG Pipelines Ollama / LLMs Vector Embeddings NLP FastAPI Python Next.js Node.js Docker
AWS EC2/S3 OpenCV OCR / Tesseract DSA & OOP C++ TypeScript

PROFESSIONAL & RESEARCH EXPERIENCE

Founder & Lead AI Developer — AuraCore Command Dashboard (Personal Project)

Jan 2026 – Present

CrewAI · Ollama · Python · FastAPI · Next.js · SQLite · Docker

- Spearheaded architecture of a local multi-agent system orchestrating 3 specialised CrewAI agents (research, writing, execution) to automate complex task workflows end-to-end.
- Designed a high-performance RAG pipeline reducing document retrieval latency by ~40% using local vector embeddings — zero external API dependency.
- Maintained 98% server uptime processing 100+ daily test queries; implemented a database-backed licensing system to protect intellectual property.

AI Research Assistant — IJARST International Journal

Mar 2026 – Apr 2026

Published: "Sarathi: Smart Emergency Navigation System" | DOI: [10.48175/IJARST-32733](#)

- Designed and coded a graph-based routing algorithm in Python using topological mapping and custom Dijkstra algorithms to automate simulated emergency route dispatch.
- Programmed a real-time GPS coordinate triangulation and telemetry engine in Python/Dart to process GPS coordinate feeds, feeding coordinates into spatial models.
- Links: [Live App](#) | [Paper PDF](#) | [GitHub Repo](#)

FEATURED AI & AGENTIC PROJECTS

BKR 2.0 — Private Offline Voice Assistant

20+ Stars

Python · Ollama · Vosk STT · Piper TTS

- Fully local LLM inference — 100% data privacy, zero API cost
- End-to-end speech-to-text response under 200 ms on consumer hardware
- Links: [GitHub](#) | [Setup Guide](#)

DocuShrink AI — Serverless Document Suite

25+ Stars

React.js · TypeScript · Tesseract.js · PWA

- 10 client-side tools — \$0 hosting, no server required
- Offline OCR across 13 languages via Service Workers
- Links: [Live App](#) | [GitHub](#)

NeuralGuard — Cybersecurity Framework

15+ Stars

C++ · Real-Time System Monitoring · Native Process Hooking

- High-performance C++ monitoring engine applying heuristic anomaly detection rules to identify execution vulnerabilities.
- Hooked local process execution events via native APIs to analyze patterns and identify execution anomalies — zero external network footprint.
- Links: [GitHub](#) | [Demo Video](#) | [Setup Guide](#)

EDUCATION

ACE Engineering College, Hyderabad (Affiliated to JNTUH)

2024 – 2028

B.Tech in Computer Science and Engineering | CGPA: 8.3 / 10

Relevant Coursework: DSA, DBMS, Operating Systems, Software Engineering

ACHIEVEMENTS & CERTIFICATIONS

- Ranked Top 4 / 200+ in ACE Code Sprint 2026 | Top 7 in KL University National Hackathon | Deployed 30+ open-source utilities.
- Certifications: Python Programming (IIT Bombay) | Generative AI Mastery (OutSkill) | Claude AI Professional (Anthropic) | IA Online Technical Training.
- Languages: English (Professional) | Telugu (Native) | Hindi (Conversational)