

Bakker Abhinay Karthik

Hyderabad, India

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Summary

Computer Science undergraduate with practical experience in designing and developing software systems. Experienced in building complete applications using modern web technologies and integrating data-driven models to tackle real-world challenges. My strong problem-solving skills span data structures and algorithms, along with hands-on experience in backend, frontend, and AI systems.

Education

Neil Gogte Institute of Technology

Bachelor of Engineering in Computer Science | CGPA: 8.65

Sep. 2023 - May 2027

Hyderabad, India

Sri Chaitanya College of Education

MPC

Jun. 2021 - Mar. 2023

Hyderabad, India

Projects

ClinicalAgent++ | Llama 3, FastAPI, Next.js, LangChain, FAISS

Sep. 2025 - Dec. 2025

- Designed a multi-agent clinical decision support system with Llama-3 and LangChain to automate medical query reasoning.
- Integrated Neo4j HetioNet knowledge graph and OpenFDA APIs for drug safety checks.
- Developed persistent memory and a Human-in-the-Loop feedback system to improve response reliability.
- GitHub:** github.com/Abhinay2206/ClinicalAgents

AyurAhaar | MERN Stack, AI

August 2025

- Developed an Ayurvedic diet management system to generate personalized diet charts based on Prakriti (body type).
- Integrated IoT wearables (Fitbit, Apple Watch, Mi Band) for real-time health tracking and adaptive diet suggestions.
- Built multilingual support (English, Hindi, Telugu) to improve accessibility for diverse users.
- Implemented consultation mode with AI-powered plan generation and survey-based Prakriti assessment.
- GitHub:** github.com/Abhinay2206/ayurahaar

Road Damage Detection and Management System | Vision Transformer, MERN Stack

Apr. 2025 - Jul. 2025

- Developed an AI-powered road inspection platform that lets field workers upload road images through a mobile app.
- Built a React and Material UI admin dashboard for tracking damage reports and managing repair tasks.
- Designed backend microservices and REST APIs for integrating CNN and Vision Transformer models, focusing on scalable architecture and efficient data handling.
- Added Redis caching, cutting API response time by about 40%.
- GitHub:** github.com/safestreets-g408/safestreets
- Live site:** safestreets.vercel.app

Key Achievements

- Participated in 10+ national and college-level hackathons, securing 2 wins and 1 runner-up position (**TechXcelerate Hackathon - IIT Hyderabad**).
- Solved **500+ DSA** problems on LeetCode (**1800+ rating**), strengthening problem-solving and coding proficiency.
- Building **Enteraflux**, a personal R&D initiative focused on AI-driven analytics and experimental software systems.

Technical Skills

Languages: Java, Python, SQL, C, JavaScript

Frontend: React.js, Next.js, HTML, CSS, Tailwind CSS, MUI

Backend: Node.js, Express.js, Flask, REST APIs, FastAPI, JWT Authentication, WebSockets

Databases: MongoDB, MySQL, Redis

Machine Learning/AI: Machine Learning, Neural Networks, LLMs, PyTorch, LangChain

Tools/Platforms: Git, GitHub, Vercel, Figma, Docker