

Karthik Attooru



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📍 Bangalore, India

## Summary

### Software Engineer | Full-Stack | Backend | Computer Vision | Scalable Systems

Innovative **Software Engineer** with **4+ years** of hands-on experience in designing, developing, and deploying **high-performance, scalable applications**. Proven ability to drive **end-to-end system architecture**, lead **cross-functional teams**, and implement **AI-powered** solutions. Adept at delivering production-grade software in fast-paced environments using **Java, Python**, and **Spring Boot**, with deep knowledge of **Microservices, Computer Vision**, and **Geospatial AI**.

## Education

- **Bachelor of Technology (B.Tech), Mechanical Engineering** from Siddhartha Institute of Engineering & Technology | 2020

## Core Skills

- **Languages:** Java, Python, SQL, JavaScript
- **Frameworks/Tools:** Spring Boot, PyTorch, OpenCV, Angular, JUnit, Docker, WSO2, Jenkins, SVN, SonarQube
- **Databases:** PostgreSQL, CouchDB, MySQL
- **Architectures:** Microservices, Event-driven, Multitenancy, REST APIs
- **DevOps & Tools:** Kubernetes, RabbitMQ, Redis, Postman, Metabase
- **Specialized Domains:** Computer Vision (YOLOv8, ONNX), Geospatial Systems (GNSS, IMU, Kalman Filter), Edge AI (Jetson)
- **Soft Skills:** Agile Development, Leadership, Cross-team Collaboration, Problem-solving

## Professional Experience

Saartha Labs Pvt Ltd, Bangalore

03/2021 – Present

- **Software Engineer**
- Developed a real-time **Geospatial AI platform** integrating **YOLOv8**, **ZED 2i stereo cameras**, and **GNSS/IMU** sensors, enabling **automated road infrastructure mapping** with >95% detection precision.
- Designed a **drag-and-drop App Builder** that dynamically generated **SQL schemas** and **APIs**, reducing delivery time by **70%** and enabling non-developers to build workflows.
- Engineered **microservices-based** systems for **Authorization**, **Task Scheduling**, and **Document Management**, supporting multi-tenancy and RBAC.
- Built a **generic dynamic read service** with pagination, filtering, and sorting, enabling support for **100+ SaaS tenants**.
- Led CI/CD setup using **Jenkins**, **Docker**, and **SonarQube**, improving deployment from 2 hours to 30 minutes.
- Integrated **Metabase** for real-time analytics, boosting operational visibility by 3x.
- Reduced manual inspection labor by **200+ man-hours/month** through AI-powered **object detection pipelines** on **Jetson** edge devices.

## Project Highlights

- **Geospatial AI & Edge Vision System:** Delivered a 60 FPS object detection pipeline using **YOLOv8**, **ZED 2i**, **Kalman filtering**, and **Jetson** for real-time road inspections.
- **App Builder Platform:** Enabled users to build fully functional apps via UI by dynamically generating **SQL** and **CouchDB** schemas; integrated analytics using **Metabase**.
- **Planner Board:** Created a high-throughput backend capable of serving **8,000+ records** across multiple sheets with **millisecond response time**.
- **Document Management System:** Built scalable backend handling **10,000+ documents/day** with version control and **tenant isolation**.
- **Ezy Serve API Layer:** Built a reusable, no-code API engine that eliminated 90% of custom query work across backend modules.

**Languages-**English (Fluent), Telugu (Native), Kannada (Working), Tamil (Basic)