

Kishorrekumar S

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PROFESSIONAL SUMMARY

Full-Stack Developer and Edge AI Engineer with hands-on experience building enterprise applications, computer vision systems, and industrial IoT solutions. Experienced in Python, Django, Computer Vision, multi-database architectures, local LLM integration, and real-time AI inference. Proven experience developing production systems for academic administration and industrial safety monitoring.

EDUCATION

Ramco Institute of Technology

Bachelor of Technology in Artificial Intelligence and Data Science

SBOA Matriculation Higher Secondary School

Computer Science (Score: 81%)

Rajapalayam, TN

Expected May 2027

Madurai, TN

May 2023

TECHNICAL SKILLS

Languages: Python, SQL, C++

Backend & Frameworks: Django, Flask, FastAPI, REST APIs, Waitress WSGI, ReportLab

AI, ML & Computer Vision: YOLOv8, OpenCV, DeepSORT, LangChain, Ollama, TensorRT, PyTorch

Databases & DevOps: MySQL, MS SQL Server, Git, Docker, Cloudflare Tunnels

Hardware & IoT: NodeMCU ESP8266, Arduino, RTSP

EXPERIENCE

Full-Stack Developer & Systems Architect – RIT ERP

Sep. 2025 – July 2026

Ramco Institute of Technology

Rajapalayam, TN

- Architected and developed a monolithic, VAPT-hardened Django ERP integrating 19 administrative modules for students, faculty, and institutional administration.
- Engineered a multi-database architecture connecting 7 MySQL databases and 1 MS SQL Server cluster, enabling real-time biometric attendance synchronization and centralized academic data management.
- Integrated local LLMs using Ollama and LangChain to build AI-powered technical mock interviews and institutional RAG chatbots without third-party API costs.
- Developed REST APIs, role-based workflows, reporting systems, and automated document generation for institutional operations.

Full-Stack Software Engineer – RIT COE System

Apr. 2026 – Oct. 2026

Ramco Institute of Technology

Rajapalayam, TN

- Developed a Django-based examination management platform digitizing the academic examination lifecycle and processing large-scale question-wise marks with strict data integrity.
- Automated blind evaluation workflows including dummy number generation, answer-script packetization, and regular/arrear examination processing.
- Engineered dynamic PDF generation pipelines using ReportLab for QR-secured Hall Tickets, Grade Transcripts, Revaluation Abstracts, and examination documents.
- Implemented database-driven workflows and automated administrative processes to reduce manual examination operations.

PROJECTS

Industrial PPE Safety Monitoring System

Computer Vision Engineer – Ramco Cements

Ariyalur, TN

- Built an end-to-end edge AI safety platform using fine-tuned YOLOv8 and DeepSORT to detect PPE violations including missing helmets and safety vests from real-time industrial camera feeds.
- Engineered a hardware-in-the-loop IoT actuation system using NodeMCU ESP8266 and a custom UART serial protocol to trigger physical factory alarms and warning LEDs.
- Optimized computer vision inference by converting PyTorch models into FP16 NVIDIA TensorRT engines for efficient edge deployment.
- Developed a Flask backend supporting rolling video archival, event logging, and automated SMTP-based safety alerts.

5S Industrial Safety Monitoring System

Edge AI & Embedded Systems Developer – Ramco Mills

Rajapalayam, TN

- Designed a multi-threaded computer vision pipeline to monitor factory RTSP camera feeds and detect stationary machinery blockages in real time.
- Architected a two-stage detection pipeline using OpenCV MOG2 background subtraction to trigger YOLOv8 inference only when relevant activity was detected, reducing idle CPU load by up to 70%.
- Built an interactive Flask dashboard with an HTML5 Canvas interface allowing factory operators to draw, configure, and hot-reload physical regions of interest without system downtime.
- Implemented real-time event monitoring and configurable safety regions for continuous industrial surveillance.

LEADERSHIP & EVENT MANAGEMENT

Treasurer, Analytics Society of India (ASI) Student Chapter

2024 – 2026

Ramco Institute of Technology – AI & DS Department

Rajapalayam, TN

- Managed chapter finances, budgets, and technical events while coordinating activities for the campus AI and Data Science community.

Main Team Coordinator – Hackfinitiy & Nexgen AI Symposium

2023 – 2024

Ramco Institute of Technology

Rajapalayam, TN

- Coordinated planning, logistics, and execution of Hackfinitiy, a national-level hackathon, and the institute-wide Nexgen AI technical symposium.
- Led a cross-functional student team managing participant engagement, scheduling, coordination, and event operations.