SURYA M

SOFTWARE DEVELOPER | FULL-STACK & AI SYSTEMS

suryamurugasen135@gmail.com | +91 9092436936 | Coimbatore, Tamil Nadu, India
linkedin.com/in/surya-m-softwareservicedeveloper | github.com/surya-murugasen | surya-murugasen-portfolio-5f4d33.netlify.app

PROFESSIONAL SUMMARY

Results-driven Software Developer with full-time professional experience building enterprise applications and full-stack web and mobile systems. Currently working as a Software Developer at KnowledgeQ, engineering backend microservices and traceability workflows for enterprise Manufacturing Execution Systems (MES) and deploying React Native iOS FinTech applications. Proficient in Node.js, Express.js, TypeScript, React.js, React Native, Flutter, and MySQL. Demonstrated expertise in real-time event-driven systems (Socket.IO, HMAC-SHA256), vector retrieval AI (FAISS, RAG, PyMuPDF), and computer vision (Ultralytics YOLO, OpenCV).

PROFESSIONAL EXPERIENCE

Software Developer | **KnowledgeQ, Coimbatore (Full-time · On-site)** **Jun 2025 – Present**

- Develop and maintain enterprise Manufacturing Execution System (MES) Traceability applications to improve production tracking, product traceability, and manufacturing workflows.
- Build and enhance scalable backend services using Node.js, Express.js, TypeScript, REST APIs, and MySQL.
- Develop and maintain React Native iOS applications for FinTech solutions, delivering new features, resolving production issues, and supporting App Store releases.
- Collaborate with cross-functional teams including developers, QA engineers, business analysts, and stakeholders in an Agile/Scrum environment.
- Participate in application debugging, performance optimization, code reviews, testing, and deployment activities.
- Work with Git for version control and contribute to clean, maintainable, and production-ready code following software engineering best practices.

Tech Stack: Node.js, Express.js, TypeScript, React.js, React Native (iOS), Flutter, MySQL, REST APIs, Git, Xcode, Agile/Scrum

Full Stack Web Development Trainee | **Qtree Technologies, Coimbatore** **July 2024 – Dec 2024**

- Developed responsive web applications and built RESTful APIs using React.js, Node.js, Express.js, HTML, CSS, JavaScript, and MySQL, successfully integrating frontend interfaces with backend services.
- Collaborated in Agile development teams using Git and GitHub, actively performing debugging, testing, and performance optimization.

Tech Stack: React.js, Node.js, Express.js, HTML5, CSS3, JavaScript (ES6+), MySQL, REST APIs, Git

FEATURED TECHNICAL PROJECTS

TeamTrack – Real-Time Project Management Platform

- Architected an enterprise project tracking platform featuring secure JWT authentication and role-based access control (RBAC).
- Engineered real-time collaboration engines using Socket.IO room broadcasting, departmental dashboards, notifications, and document versioning.
- Designed modular TypeScript backend architecture, server-to-server HMAC-SHA256 authentication, and optimized relational MySQL queries.

Tech Stack: Next.js, Node.js, Express, TypeScript, MySQL (Sequelize), Socket.IO, HMAC-SHA256, JWT, Git

VisionGuard AI – Enterprise Anti-Face Spoofing System

- Built a deep learning anti-face spoofing system using Ultralytics YOLO and OpenCV to detect presentation attacks in real time.
- Engineered live webcam frame processing with Flask-SocketIO streaming microservice, detecting printed photos and digital video replays.
- Integrated Python AI inferencing with a React admin dashboard and Node.js SQLite audit logging microservice.

Tech Stack: Python, Ultralytics YOLO (v8/v11), OpenCV, Flask-SocketIO, Node.js, React, SQLite

RAG Document Intelligence – Citation Engine & Multi-User Isolation

- Engineered an asynchronous Retrieval-Augmented Generation platform using FastAPI, FAISS vector indexing, and PyMuPDF text extraction.
- Implemented strict page-isolated chunking, interactive PDF viewer (pdfjs-dist) with jump citations, and Chunk Inspector measuring token overlap.
- Validated server-side session authentication, document ownership authorization, and vector tenant isolation across 88 automated regression tests.

Tech Stack: Python 3.12, FastAPI, FAISS (IndexFlatIP), PyMuPDF, React 19, TypeScript, SQLite (Alembic), Docker Compose

EDUCATION & CERTIFICATIONS

B.E. – Computer Science and Engineering **2020 – 2024**

Hindusthan College of Engineering and Technology, Coimbatore **CGPA: 8.21 / 10**

Certification: Full Stack Web Development (6-Month Intensive Training) – Qtree Technologies (July 2024 – Dec 2024)

TECHNICAL SKILLS

Programming Languages: JavaScript (ES6+), TypeScript, Java, Python, Dart, SQL

Backend & APIs: Node.js, Express.js, RESTful APIs, Microservices, Socket.IO, HMAC-SHA256, JWT, Middleware

Frontend & Mobile: React.js, Next.js, React Native (iOS), Flutter, HTML5, CSS3, Tailwind CSS, Vite

Databases: MySQL (Indexing, Normalization, Query Tuning), SQLite, PostgreSQL, Oracle, Sequelize ORM

AI & Computer Vision: Ultralytics YOLO (v8/v11), OpenCV, FAISS Vector Indexing, PyMuPDF, RAG Architecture, Prompt Engineering

Developer Tools: Git, GitHub, Docker, Postman, Xcode, Jira, Splunk, Firebase, Playwright, Vitest, Pytest

Core Engineering: Object-Oriented Programming (OOP), Data Structures & Algorithms (DSA), System Design, Agile/Scrum