Roopesh S

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PROFILE

Full-stack software developer with 3+ years of experience in building scalable React frontends and RESTful APIs backed by NodeJS & MongoDB. Strong in writing clean, testable code, debugging production issues, and delivering features that improve performance and user experience.

EXPERIENCE

HCLTech | Software Engineer   *2022 - Present*
Client: Pearson PLC | Bengaluru, India

- **Redesigned the frontend architecture** by implementing a scalable **micro-frontend system using React, MobX, and Material UI,** significantly improving modularity and reducing manual operational effort by **77%.**
- Built and optimised **high-performance React components** with Material UI, improving usability, consistency, and overall user experience across a large-scale education platform.
- Designed and developed an **AI-powered admin dashboard** using React and Material UI that allows internal users to configure prompts, define multiple levels of summaries, quizzes, and topic generation, edit and validate **AI-generated quiz questions and topics,** and orchestrate AI agent workflows using **graph-based visual flows**.
- **Integrated OpenAI-powered features** to validate educational content, generate **contextual summaries, topic breakdowns, and quiz questions,** enhancing content accuracy and learner engagement.
- **Developed and maintained scalable backend services using Node.js and Express**, enabling reliable data exchange between micro-frontends and backend systems under production workloads.
- Improved backend scalability and performance by **optimising MongoDB queries**, implementing indexing strategies, and efficiently handling increased traffic and data volume.
- Owned and maintained **end-to-end CI/CD pipelines**, automating build and deployment workflows across development, staging, and sandbox environments for faster and more reliable releases.
- Strengthened production stability by implementing **unit and integration tests using Jest,** reducing regressions and improving long-term maintainability.
- Led feature upgrades and proof-of-concept initiatives, contributing to **frontend modernisation, backend scalability, and architectural improvements.**
- Collaborated closely with cross-functional teams using **Jira for task tracking, Git for version control,** and automated pipelines for continuous delivery.

PROJECTS

Enterprise Learning Platform (Client Project)
- Built React micro-frontend architecture with independent deployments and shared auth/state.
- Developed Node.js REST APIs with MongoDB indexing to support scalable data access.
- Improved modularity and reduced operational effort by 77% using CI/CD and automated testing.

Scalable Order Management System (Personal Project)
- Designed and implemented a full-stack system using React, Node.js, and MongoDB.
- Implemented authentication, role-based access, and optimised queries. Architected APIs for scalability and maintainability.

TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, SQL, Python
Frontend: React.js, Redux Toolkit, MobX, Material UI, Micro-frontends
Backend: Node.js, Express, REST APIs
Databases: MongoDB (Indexing, Optimisation), SQL, Firebase
Testing: Jest, Unit & Integration Testing
DevOps & Tools: CI/CD, Git, Webpack, ESLint, Postman, Jira

CERTIFICATION

- *Microsoft Certified: Azure Fundamentals* (2024)
- *Microsoft GitHub Copilot Certification* (2025)

EDUCATION

Bachelor of Technology in **Electronics and Communication Engineering.**
Sreenivasa Institute of Technology and Management Studies | 2018 - 2022.