Alok Raj

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Summary

Software Engineer with 2.5 years of experience developing web and mobile applications using a microservices architecture. Proficient in backend technologies including Node.js and Python, with hands-on experience building generative AI applications and agentic systems.

Technical Skills

- **Languages:** JavaScript (ES6+), TypeScript, Python, SQL
- **Libraries & Frameworks:** React.js, Next.js, React Native, Node.js, Express.js, FastAPI
- **Databases:** PostgreSQL, MongoDB, Redis, MySQL
- **Cloud & DevOps:** AWS (EC2, ECS, Lambda, Textract), Docker, Nginx, CI/CD, Git
- **AI & Automation:** LLM Integration, RAG Pipelines, Agentic AI

Experience

Senior Software Engineer | Mindfire Solutions, Remote   *August 2025 – Present*

- Architected a Python-based testing framework using **Selenium** to crawl application pages and utilize LLMs for dynamic test case generation.
- Developing an **ADA compliance** engine using **AWS Textract** and **OCR** to extract text from target URLs and validate accessibility standards.
- Refactored monolithic architecture into queue-based microservices using Node.js and FastAPI to handle heavy crawling operations, resolving single-threaded blocking issues and **increasing data throughput by ~40%**.
- Orchestrated Kubernetes infrastructure to manage service scalability and **CPU** monitoring, and implemented a RabbitMQ-driven Node.js document pipeline to handle asynchronous media processing using **FFmpeg** for thumbnail generation and image compression.

Software Engineer | Creative Buffer, Mohali, Punjab   *June 2023 – July 2025*

- Developed a cross-platform mobile **EHR** patient portal app integrating **Validic, Apple Health, and Omron device** APIs to track patient vitals and manage health reports.
- Managed high-throughput patient metrics using **TimescaleDB** and implemented an automated alerting system for critical vital ranges.
- Delivered healthcare features including EMRs with WebSockets, secure S3 file workflows, and integrations with **Azure Communication** and Documo Fax provider.
- Improved backend **performance by ~30% through database indexing, query restructuring, and lightweight caching** at the API layer.
- Managed production releases with Docker, Nginx, and AWS Secrets Manager, and maintained code quality through CI/CD pipelines, ESLint, and Swagger documentation.

Education

Master of Computer Applications (MCA) | Chandigarh University (2021 – 2023)
Bachelor of Information Technology (B.Sc IT) | Magadh University (2018 – 2021)