

Nilesh Deshpande

Software Development Engineer

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EDUCATION

B. Tech, Computer Science and Engineering
8.63 CGPA

2021 – 2025

PROFESSIONAL EXPERIENCE

Freelance Developer, Maulana Azad Polytechnic 🔗

06/2024 – 08/2024

- Built and deployed a robust backend using **Node.js** and **MongoDB Replica Set**, optimized for high availability and maintainability using **PM2** and **systemd**.
- Integrated a full observability stack with **Grafana**, **Prometheus**, and **Loki** for real-time monitoring.
- Load tested with **k6**, sustaining **1200 RPM** on a **single-core machine**, with **p99 latency of 700ms** and **p50 under 200ms** for aggregation-heavy APIs.

PROJECTS

ResumeX – Agentic AI-Powered Resume Editor (In Progress),

Tech Stack: NestJS, TypeScript, BullMQ (Redis), Gemini API, Zustand, React.js, MongoDB 🔗

- Designed and implemented a scalable 4-stage GenAI resume tailoring pipeline using BullMQ and Gemini API, enabling parallel job execution with 5 in-flight tasks and processing up to 12 resumes per minute on a single-node setup; demonstrated linear throughput scaling with additional worker nodes.
- Leveraged Redis for distributed queuing and rate limiting, enabling concurrent task execution and scalable performance under high load for high-performance software.
- Architected backend resilience strategies, including retry queues and fallback workers, to enhance fault tolerance and reliability, crucial for end-to-end ownership of highly reliable software.
- Building a real-time React-based editor with Zustand for fast, modular state management and a smooth user experience during content editing, demonstrating strong Javascript and React experience.

HLS with Adaptive Bitrate Streaming (Web Application), *Tech Stack: React, Node.js, Express.js, FFMpeg, Socket.IO, gRPC, MongoDB, Docker, Messaging Queues, Oracle Cloud Bucket* 🔗

- Engineered a scalable video streaming platform supporting HLS with adaptive bitrate, ensuring smooth playback across variable network conditions, and leveraging Node.js and Express.js for robust REST APIs and Web Services.
- Modularized video processing using Docker containers and RabbitMQ messaging queues, reducing average processing time by ~25%, showcasing efficient distributed processing and experience with containerized applications.
- Deployed infrastructure on Oracle Cloud and integrated Oracle Buckets, optimizing video retrieval latency by ~40%, demonstrating practical cloud deployment and performance optimization on cloud infrastructure vendors.
- Implemented Socket.IO to stream real-time metadata to the frontend, enabling responsive playback control during concurrent sessions, utilizing React for the frontend.

Study Notion (MERN App), *Tech Stack: React.js, Tailwind CSS, Express.js, MongoDB* 🔗

- Developed a responsive MERN-based platform with React.js for the frontend and Redux for global state management, and integrated Cloudinary to optimize media performance.
- Enabled secure online payments via Razorpay and implemented email-based OTP flows for password resets, demonstrating attention to secure, mission-critical functionalities.

SKILLS

Programming Languages: C, Java, Javascript (ES6+), Typescript

Backend & APIs: Node.js, Express.js, NestJS, REST APIs, gRPC, WebSockets (Socket.IO)

Frontend: React.js, Next.js, React Native, Tailwind CSS, HTML, Zustand, Redux

Databases & ORM: MongoDB, PostgreSQL, Redis, Prisma ORM

DevOps & Tools: Docker, Nginx, Git, GitHub, AWS (EC2, S3), Oracle Cloud, CI/CD (basic), PM2

Monitoring & Testing: Grafana, k6, Artillery, Postman, Logging & Performance Profiling

Architecture: Microservices, Event-Driven Design, BullMQ (Redis Queue)

ACHIEVEMENTS

- Finalist at an offline 36-hour PAN India Hackathon arranged by HackHive, DAVV, Indore. 🔗
- Won state Level Technical Event ORCHATHON'23. 🔗