Mohit Raj Deo

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Experience

Software Engineering | Eduniketan Private Limited **Since Oct 2025**

- Built a distributed code execution platform replacing single-server setup, reducing execution latency by ~40% and enabling 2x more concurrent users with auto-scaling and Redis caching.
- Designed a self-hosted backend platform (Supabase alternative) using Aurora + Backblaze B2, cutting cloud storage costs by ~60% compared to equivalent AWS S3 pricing while maintaining full API compatibility.
- Automated the entire deployment lifecycle from code push to production, eliminating manual releases entirely and achieving zero-downtime deployments across all server nodes.
- Engineering a distributed live-streaming infrastructure (EduLive) on AWS EKS with LiveKit, projected to handle 500+ concurrent streams with Kubernetes auto-scaling.

Projects

Multi-Objective Polypharmacy Optimization System | RL, Healthcare AI **Oct-Dec 2025**

- Developed a reinforcement learning-based clinical decision support system optimizing drug regimens across efficacy, ADR risk, and tolerability using Pareto-based multi-objective learning.
- Integrated large-scale datasets (MIMIC-III, DDInter, SIDER) to model complex drug interactions and generate personalized treatment strategies.
- Designed and contributed to a functional prototype with multi-objective optimization logic and clinically relevant evaluation metrics for decision support.

AI-Powered Real-Time System Monitoring and Optimization Platform **Mar–Jun 2025**

(Published — Indian Patent Office) Application No: 202511089783

- Developed a working proof of concept prototype that detects system anomalies using Isolation Forest + KNN on OS-level metrics — reducing manual monitoring effort by ~90%.
- Designed an intelligent resource optimizer that identifies overutilized resources automatically, preventing potential downtime and saving estimated 15–20% compute waste.
- Created an interactive Streamlit dashboard delivering real-time alerts and actionable recommendations, replacing traditional manual log review workflows.

Certifications

Cloud Computing AWS | *CipherSchool* **July 2025**

Cloud Computing | *Nptel* **June 2025**

Oracle Cloud Infrastructure 2025 Foundations Associate | *Oracle* **Sept 2025**

Technical Skills

Languages:	Python, C++, Java
Backend & Systems:	FastAPI, Flask, REST APIs, Distributed Systems, System Design
Cloud & DevOps:	AWS (EC2, S3, RDS, EKS, ASG, ALB, CodeDeploy), Docker, Kubernetes, CI/CD, GitHub Actions
Data & ML:	Scikit-learn, TensorFlow, Pandas, NumPy, Hugging Face
Streaming & Infra:	LiveKit, Redis, Aurora (PostgreSQL), PM2, CDN Architecture
Visualization:	Matplotlib, Seaborn, Plotly, Streamlit
Soft Skills:	Leadership, Problem-Solving, Communication, Project Management, Adaptability

Education

Lovely Professional University Punjab **Since August 2023**

Computer Science and Engineering — CGPA: 9.09 *Jalandhar, Punjab*

Red Rose School, Deoghar **April 2020 – March 2022**

12th with Science — Percentage: 94.00% *Deoghar, Jharkhand*