

OM MISHRA

AI Engineer & Full-Stack Developer

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Professional Summary

B.Tech Information Technology graduate with end-to-end ownership of **4 deployed full-stack applications** spanning SaaS, chatbots, developer tools, and content platforms. Experienced in the complete product lifecycle: architecture design, REST API development, database schema design, AI integration, and production deployment. Proficient in **Next.js 14, TypeScript, PostgreSQL, Express.js, Prisma, Supabase**, and Vercel/Railway deployment pipelines. Seeking a Full-Stack Developer role as a fresher where I can contribute to real products from day one.

Technical Skills

AI / LLM OpenAI GPT-4o, Anthropic Claude, Google Gemini, Mistral, Cohere, Prompt Engineering
RAG & Vec-Retrieval-Augmented Generation, pgvector, Cosine Similarity, EWMA Interest Vectors, Chunking
Frontend Next.js 14 (App Router), React, TypeScript, Tailwind CSS, Framer Motion, Three.js
Backend Node.js, Express.js, REST APIs, SSE Streaming, Rate Limiting, Cron Jobs
Databases PostgreSQL, Supabase, SQLite, Prisma ORM, MySQL, MongoDB
Auth & Infra NextAuth.js, JWT, GitHub OAuth, Vercel, Railway, GitHub Actions
Languages TypeScript, JavaScript, Python, SQL, Bash
Tools Git, Vite, pdf-parse, cheerio, rss-parser, Postman

Projects

RAGChat — Multi-Provider RAG Documentation Chatbot *Fr Labs*
Next.js 14 · Supabase pgvector · OpenAI · Gemini · Mistral · Cohere · SSE Streaming ragchat-xi.vercel.app | GitHub

- Built a production RAG chatbot supporting **4 AI providers** (OpenAI, Gemini, Mistral, Cohere) with provider-specific embedding columns in Supabase pgvector (1536/768/1024 dims)
- Implemented multi-file PDF ingestion, URL scraping via Cheerio, and text chunking (1800 chars, 200 overlap) with real-time SSE streaming progress and source citations
- Engineered 8 pgvector match functions with cosine similarity search and SQL migration pipeline; resolved complex Supabase RLS and schema cache issues in production
- Deployed to Vercel with NEXT_PUBLIC_SUPABASE_URL environment config; **live in production**

Axiom Feed — AI-Personalized Content Intelligence Platform *Fr Labs*
Next.js 14 · PostgreSQL · pgvector · OpenAI · Prisma · NextAuth.js · RSS GitHub

- Architected a personalized RSS feed platform that builds a **1536-dimensional interest vector** per user using Exponentially Weighted Moving Average (EWMA) learning from reading behavior
- Implemented cosine similarity feed ranking: $score = (similarity \times 0.6) + (recency_decay \times 0.3) + (diversity \times 0.1)$ with IVFFlat indexing for sub-millisecond vector queries
- Built 18 API routes including semantic search (hybrid pgvector + PostgreSQL full-text BM25), onboarding interest seeding, and scheduled RSS ingestion with Cheerio content scraping
- Designed split SQLite schema (reviews + review_content tables) to prevent DB bloat on large PR diffs

AI Code Review Dashboard — Security Audit Platform *Fr Labs*
React · Vite · Express.js · SQLite · OpenAI · Claude · Gemini · Grok · SSE GitHub

- Built full-stack AI security audit tool with **30+ CWE vulnerability checks**, OWASP Top 10 mapping, CVSS 3.1 base scoring, exploit scenario generation, and AI-generated secure code rewrites
- Engineered a unified multi-LLM router (OpenAI, Claude, Gemini, Grok) with SSE token streaming and a 130-line security audit system prompt covering injection, auth, data, logic, and infra vulnerability classes
- Implemented GitHub PR diff import via REST API, per-IP rate limiting (5 req/min), and SQLite split-schema history with WAL mode for concurrent reads

PageForge — AI SaaS Landing Page Builder *Fr Labs*
Next.js · Claude API · TypeScript · GitHub Pages om-frlabs.github.io/pageforge | GitHub

- Designed and shipped an AI SaaS that uses Claude API to transform product descriptions into conversion-optimized, fully-structured landing pages with dynamic layout generation
- Deployed as a **static export on GitHub Pages**; implemented client-side AI prompt engineering with streaming response rendering

Cortical Microcircuit Simulation — Capstone *Lovely Professional University*
Python · PyTorch · Matplotlib · Neuroscience

- Engineered a biophysical simulation of a cortical neural microcircuit in PyTorch using Hodgkin-Huxley neuron models, STDP/BCM synaptic plasticity, and a 3D real-time voltage visualization engine

Education

B.Tech — Information Technology 2025
Lovely Professional University, Punjab, India

Diploma — Information Technology 2021
Thakur Polytechnic, Mumbai, India

Certifications

- Certified Red Team Operations Management (CRTOM) — Red Team Leaders
- Cyber Network Security & Introduction to IT & Cyber Security — Cybrary
- AWS Certified Developer Associate — Udemy