KUSHAL RAJ G S

AI/ML Engineer & Full-Stack Product Developer

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kushalrajgs.me | 4x Hackathon Winner

PROFESSIONAL SUMMARY

Product-focused AI Engineer specializing in LLM deployment, RAG systems, and API development for production environments. Proven track record of architecting scalable cloud infrastructure with multi-model AI pipelines, vector databases (FAISS/ChromaDB), and full-stack web applications. Expert in 0→1 product development with 99.9% uptime, RESTful API design, and cost-optimized deployments on Azure/GCP-equivalent platforms.

FEATURED PROJECTS

Roast

AI-Powered Review Analysis & Engineering Ticket Generator

2026 | www.roast.systems · GitHub

- Built an AI pipeline that clustered 900K+ Google Play reviews into actionable RCA-backed engineering tickets, powered by a FastAPI backend with background jobs, streaming updates, and real-time analytics on Supabase/PostgreSQL.
- Architected a 5-model cascading fallback system (DeepSeek-R1 → DeepSeek-v3.1 → Kimi-K2 → Llama-4 → GPT-OSS) with circuit breaker pattern and rate limiting for 99%+ uptime
- **Tech Stack:** Python (FastAPI, SQLAlchemy, scikit-learn), TypeScript (Next.js 16, React 19), PostgreSQL (Supabase), DeepSeek-R1, Tailwind CSS
- **Outcome:** Reduced review analysis time from manual hours to 15-20 minutes with 85%+ bug detection accuracy

DocsVibe

AI Document Intelligence Platform

2024–Present | www.docsvibe.app · GitHub

- Built a multi-model RAG system with intelligent routing across Gemini, GPT, and DeepSeek for PDF/DOCX/PPTX understanding
- Architected a cost-optimized backend using Neon Postgres, Supabase, and Cloudflare R2 with sub-500ms retrieval latency
- **Tech Stack:** Next.js 16, FastAPI, PostgreSQL (Neon + Supabase), ChromaDB, Cloudflare R2, TypeScript, Python, Vercel, Heroku
- **Outcome:** Deployed a live platform serving 1,000+ students with zero operational cost

Pixova

Enterprise AI Design Generator

2024 | www.pixova.studio · GitHub

- Engineered a 7-model fallback generation pipeline ensuring 99.9% uptime for AI design synthesis
- Implemented automated quota enforcement and storage lifecycle management using cron-based cleanup

ACHIEVEMENTS

4x Hackathon Winner
Projects: BioBloom:- KrishiChakra, KrishiBarosa

Smart India Hackathon 2025 – Shortlisted
Top 1% from 500 submissions for national evaluation

Google Agentic AI Hackathon – Operations (Volunteer)
Led on-ground coordination for 200+ participants during a 2200+ attendee Guinness World Record hackathon; resolved system breakdowns, seating conflicts, and mentor routing in real time

EDUCATION

B.E. in Artificial Intelligence & Machine Learning

BMS Institute of Technology

2023 – Present | Bengaluru

CGPA: 9.08
Focus: Deep Learning, GenAI, RAG, Blockchain

TECHNICAL SKILLS

Languages
Python | TypeScript | JavaScript | PostgreSQL

Full-Stack & Frameworks
Next.js 15 | Node.js | FastAPI | Flask | React | TailwindCSS

AI/ML & Data Science
TensorFlow | PyTorch | Scikit-learn | RAG Pipelines | FAISS | Hugging Face | LangChain | Vector Embeddings

Blockchain & Web3
Hyperledger Fabric | Web3.js | Smart Contracts

Cloud, Databases & Tools

- Built with Next.js/TypeScript frontend, FastAPI backend, Supabase PostgreSQL, Docker containerization, Vercel, Heroku
- **Outcome:** Generated 5,000+ designs in beta with strict rate limiting and zero downtime

KrishiBarosa

Blockchain Supply Chain Verification

2024–Present GitHub

- Designed a 7-stage crop verification network on Hyperledger Fabric with PBFT-based auditability
- Integrated AI-based fraud detection for crop image verification and real-time pricing via NCDEX APIs
- **Tech Stack:** Next.js, TypeScript, Node.js, PostgreSQL (Supabase), Prisma, Hyperledger Fabric (PBFT-style consensus), HuggingFace Transformers, REST APIs, Docker
- **Outcome:** Enabled tamper-proof QR certification; research accepted for IEEE COMPSIF presentation

KrishiChakra

Agri-Tech RAG Expert System

2023–Present GitHub

- Built a domain-specific RAG system indexing 4,000+ agricultural research chunks using FAISS
- Developed multilingual and voice-enabled advisory workflows for farmer-centric accessibility
- **Tech Stack:** Next.js, TypeScript, FastAPI, Python, PostgreSQL, SQLAlchemy, FAISS, Sentence Transformers, Gemini 2.0 Flash API key, REST APIs
- **Outcome:** Achieved sub-2s query latency; prototypes validated at regional hackathons

Spotify Player Pro

VS Code Extension

2024 VS Marketplace

- Built a VS Code-integrated Spotify client with OAuth2 PKCE, real-time sync, and lyric rendering
- Optimized session persistence and playback control for uninterrupted developer workflows
- **Tech Stack:** TypeScript, Node.js, React, VS Code Extension API, Spotify Web API, OAuth 2.0 (PKCE), Webpack, Tailwind CSS
- **Outcome:** Successfully published to VS Code Marketplace with active user adoption

SOFT SKILLS

Technical Communication | Rapid Prototyping | Public Speaking | Agile/Scrum | Mentorship | Problem Solving under Pressure

Supabase | NeonDB | PostgreSQL | MongoDB | Cloudflare R2 | Vercel | Heroku | Docker | Git | REST APIs

VOLUNTEERING & LEADERSHIP

Execom Member & Project Lead

IEEE Robotics Automation Society (RAS)

Jan 2024 – Present BMSIT&M

- Organized 3+ technical workshops on automation and robotics for 200+ students
- Mentored juniors in hands-on STEM outreach sessions, teaching basic Arduino and circuit design

Core Team Lead (Marketing & Design)

AeroClub & AR/VR Hub

May 2024 – Present BMSIT&M

- Spearheaded branding initiatives and digital asset creation, increasing event footfall by 30%
- Managed campus-wide outreach campaigns for technical hackathons and workshops

Social Media Lead

Coding Club BMSIT

May 2024 – Present BMSIT&M

- Curated developer-focused content and technical tutorials, growing community engagement on Instagram/LinkedIn

INTERNSHIP

IoT Intern — Aviratha Digital Labs

Jan 2025 – Present

BMSIT&M Bengaluru

- Developed an end-to-end IoT pipeline for hydroponics, ingesting real-time sensor data via ESP32 and MQTT
- Built RESTful APIs to aggregate and store time-series sensor data for monitoring and analytics
- Implemented anomaly detection and predictive alerts for pH and EC levels, reducing crop risk by 40%
- Automated monitoring workflows, reducing manual inspection effort by 70%
- Deployed and maintained 5+ sensor nodes processing 10,000+ data points daily
- **Tech Stack:** Python, ESP32, Arduino IDE, MQTT, Firebase, REST APIs