Sumit Jadhav

AI/ML Engineer — Machine Learning, Deep Learning, Remote Sensing, Generative AI
Chh. Sambhajinagar, India | +91 9730919431 | jadhavsumit534@gmail.com | mac-os-portfolio-self-nine.vercel.app
github.com/sumitjadhav1703 | linkedin.com/in/sumit-jadhav-1703s | kaggle.com/sumit1703 | huggingface.co/sumit1703

Education

M.G.M's Jawaharlal Nehru College of Engineering, MGM University — Chh. Sambhajinagar, MH
B.Tech, Artificial Intelligence & Data Science — CGPA 8.04/10 — *2024 – 2027 (Expected)*

M.G.M Polytechnic — Chh. Sambhajinagar, MH
Diploma in Computer Engineering — 71.65%, First Class with Distinction — *2021 – 2024*
Coursework: Machine Learning, Deep Learning, Neural Network Architectures, Soft Computing, NLP, Computer Vision

Competitions & Experience

ANRF AISEHack Phase 2 (IIT Delhi) — PM2.5 Forecasting (Team Binary Bombers) — Apr 2026
2nd Rank of 21 teams *(leaderboard score 0.8795)* — *Venue: IIIT Hyderabad*
- Built a **ConvLSTM + Fourier Neural Operator** model forecasting PM2.5 **up to 16 hours ahead** on a 140x124 grid
- Deployed a public Gradio demo at huggingface.co/spaces/sumit1703/pm25-forecasting

ANRF AISEHack 2.0 (GalaxEye) — SAR Crop Yield Forecasting (Team Apes) — Sep 2026
3rd Place nationally*, Round 3 Grand Finale (on-site) | GitHub* — *Goa, India*
- Built a 14-stage SAR pipeline (GDAL): calibration, geocoding and **co-registration** (misalignment 108 m to **under 1.5 m**)
- Forecast **893.9 tonnes** for **966 farm plots** without ground-truth labels, scaling government yields by a SAR canopy factor
- Validated via **17 pre-registered hypotheses**, a back-test and Sentinel-1/2 cross-checks (Spearman 0.915)

Kalavati Technologies — Jun 2023 – Jul 2023
Web Development Intern — *Aurangabad, MH*
- Built responsive UI components in HTML5, CSS3 and JavaScript for client projects; Git-based code reviews

Projects

LinkedIn Post Agent | *LangGraph, LangChain, Groq, Tavily, FastAPI, React* — Live | GitHub
- Built a **LangGraph** LLM agent with **human-in-the-loop** approval and an **autonomous** LLM-reviewer mode

AI Video Assistant — Multimodal RAG | *LangChain, Mistral AI, Groq Whisper, pgvector* — Live | GitHub
- Built multimodal RAG Q&A over YouTube/audio/video with **Whisper** (English) and **Sarvam AI** (Hinglish) speech-to-text
- Fixed 512 MB out-of-memory crashes with a single **streaming ffmpeg** decode-and-chunk pass at constant memory

SumitOS — Grounded Assistant & MCP Server | *Next.js, Workers AI, MCP, OAuth* — Live | GitHub
- Built a RAG-grounded LLM assistant that sees only published content, plus a read-only **MCP server** behind OAuth that lets Claude search the portfolio; CI: Vitest, Playwright, pytest, CodeQL

Credit Risk ML System | *XGBoost, SHAP, FastAPI, Render* — Live | GitHub
- Built a calibrated XGBoost model on **32,000+ loans**: default-class F1 from **0.65 to 0.82**, **0.90 PR-AUC**

Research Topic Classification (GNN) | *PyTorch Geometric, GCN, ONNX, FastAPI* — Live | GitHub
- Built a GCN classifier on the Cora citation graph: **81.5% accuracy**, **+23.4 pp** over a Random Forest

Emotion Classification with BiGRU | *TensorFlow/Keras, FastAPI, Render* — Live | GitHub
- Raised six-class accuracy from **34%** (RNN/LSTM/GRU baselines) to **92.1%** with a bidirectional GRU

Technical Skills

ML & Data: Python, SQL, Scikit-learn, XGBoost, SHAP, Pandas, NumPy, Model Calibration, Feature Engineering
Deep Learning & CV: PyTorch, TensorFlow/Keras, CNNs, ConvLSTM, FNO, UNet, PyG, ONNX, OpenCV
Remote Sensing: SAR (Capella X-band, Sentinel-1), Sentinel-2 NDVI, Calibration, Geocoding, Co-registration, GDAL
GenAI & Agents: LangGraph, LangChain, RAG, pgvector, Multi-Agent Systems, HITL, MCP, Mistral AI, Groq
Engineering: FastAPI, React, Next.js, TypeScript, Docker, Cloudflare Workers, Gradio, Streamlit, Git, CI

Certifications

DeepLearning.AI: Deep Learning Specialization | **Hugging Face**: Agents Course, Certificate of Excellence
Anthropic: AI Fluency, Claude Code 101 | **Microsoft**: Foundations of AI & ML | **Kaggle**: Intermediate ML