

DAMODAR YADAV

Computer Science Engineer | AI/ML Engineer | Mumbai, Maharashtra

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EDUCATION

Thakur College of Engineering & Technology

Mumbai, Maharashtra

Bachelor of Engineering in Computer Science | **CGPA: 9.2/10.0**

2022 – 2026

PROFESSIONAL EXPERIENCE

AI Engineer Intern | Polycosmos

Nov 2024 - Jan 2025

- Learned and implemented advanced computer vision techniques including 3D Gaussian Splatting and NeRF for high-quality 3D scene reconstruction.
- Experimented with diffusion models and GANs to build and evaluate 3D model generation pipelines on GPU.
- Tested different architectures and hyperparameters, documented results, and presented practical insights on modern 3D AI systems.

TECHNICAL PROJECTS

Sensor Fault Detection – End-to-End ML Pipeline 📄 | MLOps, ML, CI/CD

Apr 2024

- Built an **end-to-end ML pipeline** for sensor fault detection covering data ingestion, validation, feature transformation, model training, and evaluation using **Random Forest**, **Isolation Forest** and **K-Mean**.
- Integrated **MLflow** for local experiment tracking and model versioning, enabling reproducible training runs and comparison across experiments.
- Implemented **CI/CD using GitHub Actions** and deployed a **FastAPI-based inference service** designed to be **AWS-ready (EC2/S3 compatible)** for real-time and batch predictions with schema validation.

Engineers' Salary Prediction – Bitgrit Competition 📄 | Data Science, Machine Learning

2024

- Analyzed a large-scale structured dataset containing **job metadata**, **categorical variables**, **temporal features**, and **300-dimensional vectorized job description features** to classify salaries into **High**, **Medium**, and **Low** categories.
- Performed comprehensive **EDA and feature analysis** to examine class imbalance, posting-date trends, location-based salary patterns, and feature correlations influencing salary outcomes.
- Trained and evaluated multiple classification models using **scikit-learn**, optimizing for **accuracy (official competition metric)** and achieving **3rd rank among 600+ participants** on the **private leaderboard**.

Intelligent Medical Assistant with RAG Architecture 📄 | LLM, RAG, NLP, LangChain

June 2023

- Built production-ready medical AI chatbot using Llama2 70B with Retrieval-Augmented Generation (RAG) architecture, LangChain orchestration, and ChromaDB vector database for medical knowledge retrieval.
- Deployed FastAPI backend with async processing, implemented semantic search with embeddings, and integrated feedback loops for continuous model improvement.

TECHNICAL SKILLS

- **Programming:** Python, SQL
- **Machine Learning:** scikit-learn, PyTorch, Keras
- **Applied AI:** NLP, Computer Vision, Object Tracking, Transformers, LLMs, LangChain
- **MLOps:** FastAPI, Docker, GitHub Actions
- **Cloud & Big Data:** AWS (EC2, S3), Apache Spark
- **Databases & Version Control:** MongoDB, Vector Databases, Git, GitHub

ACHIEVEMENTS & LEADERSHIP

- **Problem Solving & Competitive Programming:** Solved **500+** algorithmic problems across LeetCode and TakeUForward (TUF); achieved a **1760 LeetCode rating**.
- **Machine Learning Competitions:** Secured **102nd rank** in the **Amazon ML Challenge** and **25th rank** among **600+** global participants in the **Tree Canopy Detection** competition.
- **Open Source Contributions:** Contributed to **10+ open-source projects**, including **Hacktoberfest 2023 & 2024**, **SSOC'24**, and popular applications such as **ToolJet**.
- **Technical Leadership:** Led a team of **4 developers** in college and national-level hackathons.

RELEVANT COURSEWORK

- **Core Coursework:** DSA, LLD, DBMS, OOPs, CN, OS, GNN, Gans, ML-System Design