Manav Viral Darji

Artificial Intelligence & Machine Learning Student

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Summary

Aspiring AI/ML Engineer skilled in building and optimizing Deep Learning, GAN, and LLM-based systems using PyTorch, TensorFlow, and Scikit-learn. Strong foundation in Transformer/BERT architectures, RAG pipelines, and TorchVision for GAN-driven image synthesis. Experienced in structured experimentation, model fine-tuning, and applying AI research to real-world applications.

Skills

Programming: Python, C, C++, Java, JavaScript, SQL
Frameworks & Libraries: PyTorch, TensorFlow, Scikit-learn, OpenCV, Flask, TorchVision (Learning)
Databases: MongoDB, MySQL, Oracle
AI/ML Focus: GANs (Pix2Pix, SPADE), LLMs, BERT, Transformers, RAG, Deep Learning, NLP, Machine Learning, Generative AI (GenAI), Agentic AI
Tools: NumPy, Pandas, Matplotlib, Power BI, AWS S3, LangChain, Git, GitHub
Additional Skills: Data Analytics, Data Visualization, Machine Learning Model Development, Predictive Modeling, Deep Learning, Model Evaluation & Optimization, Feature Engineering, Data Preprocessing, Exploratory Data Analysis (EDA), Prompt Engineering, RAG Pipelines, GAN Model Training, API Integration, Version Control (Git/GitHub)

Experience

Open-Source Contributor — Google Gemma LLM (Marathi) **Oct 2024 – Jan 2025**
Kaggle (Remote)

- Contributed to training Google's Gemma LLM in Marathi; improved model accuracy by 15% through optimized data preprocessing and tokenizer debugging.
- Collaborated with open-source contributors to streamline multilingual dataset workflows.
- Led a 5-member team and managed task distribution for efficient project progress.

AI Developer — GenAI Timetable Management System **2024**
Self-Project

- Developed a Generative AI-based timetable management system using Flask, HTML/CSS, and LLM-powered reasoning to automate class and teacher scheduling.
- Implemented modules for **teacher, class, classroom, subject, and timetable management**.
- Currently extending the system with:
- **(1)** Timetable export to CSV in a standardized format, **(2)** Dynamic rescheduling for teacher absence, **(3)** AI-generated substitute teacher suggestions.
- Integrated LLM APIs and applied prompt-engineering logic for adaptive and context-aware timetable generation. *(Private repository)*

Researcher — UX-GenAI (Ongoing) **2025**
Independent Research

- Researching the integration of GAN and RAG architectures for AI-driven UX design generation using Pix2Pix, SPADE, and ChromaDB.
- Evaluating generator–discriminator performance to improve structured UX output synthesis.

Projects

Mumbai Real Estate Price Prediction — *Random Forest, Scikit-learn* **2024**

- Achieved 92% accuracy on 3K+ listings using feature scaling, encoding, and cross-validation.

CNN Image Classifier — *TensorFlow, Keras* **2024**

- Designed a CNN achieving 94% accuracy on 2K+ images; incorporated ReLU activations and dropout regularization.

Sentiment Analysis on Twitter Data — *NLP, K-Nearest Neighbors* **2024**

- Developed a KNN-based sentiment classifier trained on 50K tweets, achieving 87% accuracy.

Personal AI Assistant — *API Integration* **2024**

- Built a voice-enabled AI assistant for real-time task automation and intelligent query handling using multiple APIs.

Additional AI/ML Work — *PyTorch, LLMs, GANs*

- More advanced AI/ML and Generative AI projects available on GitHub.

Certifications & Achievements

- **AWS ML Scholar:** Completed 7 AWS Machine Learning certifications covering data processing, model training, deployment, and ML fundamentals.
- **Certifications:** TensorFlow (GeeksforGeeks), OpenCV (Great Learning), Data Analytics with Power BI Virtual internship (TCS Forge), FreeCodeCamp Machine Learning, HackerRank (Python, C, C++, SQL), Google Edu-Skill — AI/ML Fundamentals.
- **Hackathons & Competitions:** Team Lead at ISRO Hackathon (Lunar Project); Kaggle LLM Competition (Trained Marathi LLM); National Coding League — Ranked 49 out of 20,000+ participants.

Education

B.Sc. (Hons) in Artificial Intelligence & Machine Learning **Expected Graduation: 2027**

MKES College (Affiliated to University of Mumbai)

- Average CGPA: **8.5**
- Relevant Coursework: Deep Learning, NLP, Probability & Statistics, Data Structures, Computer Vision.

Open Source & Extracurricular

- Active contributor on Kaggle, FreeCodeCamp, and Google Developer communities.
- Published datasets, debugged AI models, and improved NLP accuracy in collaborative open-source environments.
- Experimenting with GANs (SPADE, Pix2Pix) and Transformer-based LLMs to build research-oriented prototypes.

Languages

Human Languages: English, Hindi, Gujarati
Programming Languages: Python, JavaScript, C/C++, Java, SQL, Kotlin