Viraj Ajani

M.Tech – Information and Communication Technology (Machine Learning)

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Summary

- Computer Vision engineer (fresher) with hands-on experience building vision transformers, object detection pipelines, and multilingual vision–language systems using PyTorch and TensorFlow.
- Proven ability to train, evaluate, and benchmark deep learning models through ablation studies, quantitative metrics, and structured error analysis on real-world datasets.
- Actively seeking Computer Vision Intern or Junior CV Engineer roles to develop reliable, performance-driven visual understanding systems.

Technical Skills

Programming Languages: Python
Computer Vision: Image Classification, Object Detection, Image Segmentation, Vision Transformers (ViT), CNNs
DL Frameworks: Tensorflow, Pytorch
Vision and ML libraries: OpenCV, YOLOv8, Hugging Face Transformers
Modelling Concepts: Feature Extraction, Ablation Study, Model Evaluation, Error Analysis
Web & Deployment: Flask
Databases: SQLite
Tools: VS Code, GitHub

Projects

Image-Text matching | *Pytorch*, *Transformers*

- Implemented a multilingual image–text retrieval system extending an existing image–text matching framework to support Hindi, Sanskrit, Gujarati and Bengali queries along with English query.
- Evaluated 4 transformer-based language models for multimodal alignment performance.
- Identified IndicBERTv2 as the most effective encoder for Indic-language vision–language matching with $<$6% performance degradation on rSum metrics on Flickr30K dataset.

FASS: Face Anti-Spoofing System | *Vision Transformers (ViT)*, *ResNet*, *SVM*

- Reproduced a baseline face anti-spoofing pipeline and improved feature extraction using Vision Transformers (ViT).
- Performed a comprehensive ablation study across 9 configurations (SVM, RF, KNN, CNN, ViT, hybrid models).
- Used LCC-FASD dataset for training and achieved 98.33% accuracy, 0.04 EER, 0.0129 FAR, and 0.1047 FRR on its test split in ViT.

Other Projects | *Tensorflow*, *keras*, *YOLOv8*, *Flask*, *HTML*, *CSS*

- Built a portfolio website and deployed at virajajani.com.
- Implemented basic computer vision projects like image classification(CIFAR-10, MNIST), object detection(Automobiles) and image segmentation(Human) using CNNs and YOLOv8.

Experience

Novus Ark Jan 2024 – April 2024
AI/ML developer *Vadodara, Gujarat*

- Designed and implemented an end-to-end resume classification pipeline to automate candidate shortlisting from unstructured resume data.
- Integrated LLM-based semantic extraction (Gemini) to standardize noisy text and improve skill extraction quality.
- Applied K-Means clustering for grouping resumes into role-aligned clusters, reducing manual screening effort.

Education

M.Tech ICT(ML) - Dhirubhai Ambani University (formerly DAIICT) 2024 - Present
***CPI**: 7.34* *Gandhinagar, Gujarat*

B.Tech CSE(AI) - ITM (sls) Baroda University 2020 - 2024
***CPI**: 7.33* *Vadodara, Gujarat*

Achievements

- Runner-up of inter-university level Coding competition (Bro-Code) at Prakarsh 2022, at SVIT Vasad.
- Winner of intra-university level Codeathon at ITM (sls) Baroda University, Vadodara in 2022.

Position Of Responsibility

Volunteer December 2024, December 2025
FIRE

- Played a key role in ensuring the smooth planning and execution of the FIRE (Forum for Information Retrieval and Evaluation) Conference for two consecutive years (2024–2025), collaborating with organizers and volunteers.

Member September 2024 - September 2025
Cafeteria Management Committee

- Represented student feedback and assisted in operational coordination.

Event Coordinator November 2025
Concours, iFest

- Coordinated inter-university eSports tournaments during various fests such as Concours 2025 and iFest 2025 held at DAIICT.