

# Dheeren Tejani

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Portfolio: <https://dheerentejani.netlify.app> | Location: Mumbai, India

## Summary

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Final-year AI student specializing in Computer Vision and ML System Optimization. Built custom super-resolution architectures achieving  $7\times$  inference speedup through TensorRT optimization, fine-tuned Stable Diffusion models using PEFT/LoRA on low-VRAM hardware, and deployed full-stack applications (FastAPI + React) for real-time AI inference. Seeking ML Engineer/Computer Vision roles to apply production optimization and deployment expertise.

## Education

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**B.Sc. in Artificial Intelligence**

Jun 2023 – Apr 2026 (Expected)

**College :** Vivekanand Education Society's College of Arts, Science and Commerce (Autonomous) Mumbai

**CGPA :** 8.65

## Skills

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**Languages:** Python, JavaScript/TypeScript, SQL

**AI/ML:** PyTorch, TensorRT, Computer Vision, NLP, Super-Resolution, Model Optimization

**Deployment:** FastAPI, Streamlit, Docker, Git, AWS

**Web Dev:** React, TypeScript, Tailwind CSS

**Data/Tools:** NumPy, Pandas, OpenCV, Matplotlib

## Projects

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**AI Super-Resolution System (Image + Video)**

*PyTorch, TensorRT, FastAPI, React*

- Engineered an end-to-end video enhancement suite that achieved a  **$7\times$  inference speedup** on an RTX 3050 (4GB VRAM) by optimizing a CNN/GAN model with TensorRT, multithreading, and GPU offloading techniques.
- Developed and deployed a full-stack application with a React frontend and FastAPI backend for real-time, low-latency image and video upscaling.

**Diabetic Retinopathy Detection**

*Python, Computer Vision, Streamlit*

- Fine-tuned a ResNet50 classifier on the APTOS 2019 dataset, achieving **near 75% accuracy and a Quadratic Weighted Kappa of 0.80** for retinal image severity classification.
- Integrated **Grad-CAM overlays** and interactive severity charts into a Streamlit dashboard to improve model interpretability for potential clinical use.

**Cyberpunk Stable Diffusion Fine-Tune**

*PEFT (LoRA), bitsandbytes*

- Fine-tuned the Stable Diffusion 1.5 model by applying Low-Rank Adaptation (LoRA) on a custom-curated dataset to generate high-quality, **cyberpunk-style images**.
- Implemented parameter-efficient training (PEFT) techniques with 'bitsandbytes' to enable fine-tuning on consumer-grade, low-VRAM GPU (16 GB VRAM T4 GPU).

## Other Activity (Hackathon)

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**Odoo Hackathon:** Led the development of a StackOverflow-style Q&A prototype, implementing Google OAuth for user authentication and building the core application logic using Python and JavaScript