# ANMOL GARG

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## ABOUT

AI/ML Backend Developer with expertise in Deep Learning, Computer Vision, and API development (FastAPI/Flask). Build medical imaging models, assistive vision system for the visually impaired, and face verification/deep-fake detection pipelines. Keen about learning fast, building efficient solutions, and contributing to real-world AI products. Currently open to internships in AI/ML + backend.

## SKILLS

**Machine Learning & Deep Learning:** TensorFlow, PyTorch, Keras, Autoencoders, CNNs, Object Detection, Image Segmentation, Transfer Learning.
**Backend Development:** Flask, FastAPI, REST APIs, Model Deployment.
**Programming & Tools:** Python, C++, Linux, Git/GitHub, OpenCV, MySQL, PostgreSQL.
**Core CS Subjects:** Data Structures and Algorithms, Object-Oriented Programming, Computer Networks, Operating System.

## EXPERIENCE

**IIT Mandi** Jun–Jul 2025
**Research Intern | TensorFlow, Autoencoders, Segmentation**
- Developed ML pipelines for railway track anomaly detection using VGG-based segmentation and autoencoder reconstruction.
- Achieved 98.66% accuracy and enhanced robustness against subtle and rare anomalies.
- Worked with large-scale datasets including preprocessing, augmentation, evaluation metrics, and model optimization.

**IIT Mandi** Jun–Jul 2024
**Research Intern | PyTorch, Detectron2, OpenCV**
- Implemented object detection models such as YOLO and RetinaNet with VGG backbone.
- Gained experience in computer vision, dataset preparation, and GPU-based model training.

## PROJECTS

**AI-Powered Assistive Vision for the Visually Impaired | Python, OCR, TTS, Raspberry Pi, LiDAR, Face Recognition** [Link]
- Implemented OCR-to-TTS reading, LLM-based scene descriptions, and face recognition for safety and personalized assistance.
- Used LiDAR for accurate distance calculation to obstacles, enabling safer navigation for visually impaired users.
- Optimized all modules for real-time performance on Raspberry Pi to significantly reduce system delay.

**Malicious QR/URL Detection System | Python, Flask, JavaScript** [GitHub]
- Built a hybrid ML model using scikit-learn for detecting malicious QR codes and URLs with 92% accuracy.
- Developed a Chrome extension integrated with a Flask backend for real-time URL and QR scanning.
- Integrated online learning for continuous model improvement and adaptability to new threats.

**Brain Tumor Classification | TensorFlow, OpenCV, Flask, HTML, CSS** [GitHub]
- Trained a MobileNet-based deep learning model using transfer learning for MRI brain tumor classification.
- Built a Flask-based backend API and a web UI for uploading MRI images and receiving predictions.

## RESEARCH WORK

**Medical Image Classification Using Deep Learning.**
- Implemented MobileNet, ResNet50, and VGG19 for multi-disease medical image classification.
- Focused on improving accuracy and robustness for clinical image-based diagnosis.
- Published in Maitri-2024 (NIT Srinagar). [Publication]

## EDUCATION

**Jawaharlal Nehru Govt. Engg. College Sundernagar Mandi, Himachal Pradesh** 2022 – 2026(Ongoing)
B.Tech in Computer Science Engineering(AI &ML), CGPA: 7.6

## ACHIEVEMENTS

- Qualified GATE DA 2025, demonstrating strong analytical and machine learning fundamentals. [GATE Score]
- Winner – Project Gallery Competition at college technical fest for showcasing an AI-based solution. [Link]

## OTHER CERTIFICATIONS

- Deep Learning | NPTEL (IIT Ropar) | scored 80% marks.[Certificate]
- Remote Pilot Certificate | DGCA Approved | Adani Skill Development Centre.[Certificate]
- Drone Bootcamp certificate | IIT Mandi.[Certificate]