

Week 3 – Computer Vision & Deep Learning

IMAGE CLASSIFICATION USING CNN

Description: Train a convolutional neural network on CIFAR-10 or Dogs vs Cats dataset.

Challenges:

- Data augmentation
- Track accuracy improvements
- Plot model learning curves

Tech Stack: Python, TensorFlow/PyTorch

FACE MASK DETECTION SYSTEM

Description: Detect faces with and without masks using pre-trained models or custom dataset.

Challenges:

- Use OpenCV for real-time detection
- Implement bounding boxes
- Accuracy improvement techniques

Tech Stack: Python, OpenCV, CNN Models

OBJECT DETECTION ON CUSTOM IMAGES

Description: Use YOLO or MobileNet-SSD to identify objects in images/videos.

Challenges:

- Download and integrate a trained model
- Real-time video inference option
- Label-based reporting

Tech Stack: Python, OpenCV, Pre-trained YOLO/SSD

*Complete any 1 Task