COMPUTER VISION PROJECTS

THE FINAL PROJECTS

🎯 **50 Computer Vision Projects (General CV + Deep Learning)**

1. Real-Time Face Recognition Attendance System

2. Helmet Detection System for Bike Riders

3. Mask Detection System for Public Places

4. Emotion Detection from Facial Expressions

5. Gender and Age Prediction from Faces

6. Fire Detection in Surveillance Footage

7. Social Distancing Monitoring Using CCTV

8. Lane Detection for Self-Driving Cars

9. Drowsiness Detection for Drivers

10. Object Detection using YOLOv8

11. Number Plate Recognition System

12. Human Pose Estimation for Fitness Apps

13. Traffic Sign Recognition for Smart Vehicles

14. Crowd Counting in Public Events

15. Background Removal in Images using DL

16. Optical Character Recognition (OCR) for Documents

17. Visual Product Search Engine (like Google Lens)

18. AI-Powered X-Ray Bone Fracture Detection

19. Food Item Calorie Estimator using Images

20. AI Mirror: Virtual Try-On for Glasses or Clothes
21. Sign Language Interpreter using Hand Gestures
22. Plant Disease Detection using Leaf Images
23. Vehicle Detection and Tracking from Drone Footage
24. Live Object Counting using Deep SORT
25. Shadow Detection and Removal in Images
26. Intrusion Detection System using Motion Analysis
27. Face Swap App using GANs
28. Style Transfer between Images using Neural Networks
29. Image Caption Generator using CNN + LSTM
30. Car Damage Detection for Insurance Claims
31. Wildlife Detection System from Forest Cameras
32. Recyclable Waste Detector Using CV
33. 3D Hand Pose Estimation using MediaPipe
34. Barcode and QR Code Scanner
35. Emotion-Based Music Player (via Webcam)
36. Eye Blink Detection App
37. Sketch to Real Image Converter
38. Image Forgery Detection using ELA
39. Depth Estimation from Monocular Images
40. Augmented Reality App for Furniture Placement
41. Puzzle Solver using Image Processing
42. AI-Based Makeup Filter (Virtual Try-On)

43. Real-Time Ball Tracking in Sports Videos
44. Brain Tumor Detection from MRI
45. Color Blindness Detection App
46. Landmark Recognition System
47. Smart Attendance using Eye-Gaze + Face
48. Automatic Resume Scanner (Image to Text)
49. Document Scanner with Skew Correction
50. Gesture-Controlled Smart Home Interface

🎞️ 50 OpenCV-Based Projects (Focused on OpenCV Library in Python/C++)

1. Face Detection using Haar Cascades
2. Color Detection Tool Using OpenCV
3. Real-Time Sketch Filter with Webcam
4. Cartoonify an Image using OpenCV
5. Live Background Changer with Green Screen
6. Motion Detector with Webcam Feed
7. Color-Based Object Tracking System
8. Automatic Document Scanner from Photo
9. Virtual Mouse using Hand Gestures
10. Edge Detection using Canny Algorithm
11. Real-Time Object Detection using OpenCV + MobileNet
12. Augmented Reality using OpenCV ArUco Markers
13. Image Morphing Tool

14. Eye Detection and Tracking
15. Hand Gesture Recognition using Contours
16. Sudoku Solver from Image
17. Image Stitching for Panorama Creation
18. Real-Time Barcode Scanner
19. Face Mask Detection using OpenCV + CNN
20. Object Measurement from Image using Reference
21. Template Matching for Object Detection
22. Image Thresholding Techniques Comparison
23. Face Blur for Privacy in Videos
24. Image Segmentation using Watershed Algorithm
25. Real-Time Shape Detection (Square, Circle, Triangle)
26. Background Subtraction for Motion Tracking
27. Face Alignment and Cropping
28. QR Code Generator and Scanner
29. Object Counting using Contours
30. Perspective Transformation Tool
31. Finger Counting System
32. People Detection using HOG + SVM
33. Real-Time Color Palette Extractor
34. Image Histogram Equalization
35. Real-Time Brightness and Contrast Adjustment
36. Image Compression using K-Means Clustering

37. Real-Time Face Mosaic Filter
38. Pothole Detection using OpenCV + Morphology
39. Live Webcam Filters (Snapchat-like)
40. CAPTCHA Solver using Image Processing
41. Real-Time Smile Detector
42. Age & Gender Detection using OpenCV + Pretrained Models
43. Detecting Road Lane Lines Using Hough Transform
44. AI Mirror: Head Pose Estimation
45. Real-Time Glitch/Glitch Art Generator
46. Real-Time Thermal Effect Filter
47. Currency Recognition System
48. Sports Line Detection (Cricket/Football Field)
49. Leaf Counting and Analysis
50. Real-Time Handwriting Digit Recognition (OpenCV + MNIST)