# Lab-3: Image Smoothing & Blurring Codes

Lab-3: To perform Image Smoothing and Blurring usingPython OpenCV

Image smoothing and blurring are common techniques used in image processing to reduce noise and detail in an image. OpenCV provides several methods for this in Python.

Image noise refers to random variations in brightness or color information within an image, often appearing as grainy or speckled patterns

✅ Common Methods in OpenCV for Smoothing/Blurring:

Gaussian Blur

Median Blur

✅ Example Code: Image Smoothing and Blurring in Python (Using OpenCV)

Gaussian Blur Example-

import cv2

import numpy as np

# Load the image

image = cv2.imread('your\_image.jpg')

# Check if image loaded successfully

if image is None:

print("Error: Could not load image.")

# Apply Gaussian blurring with a 5x5 kernel and sigmaX=0 (auto-calculated)

blurred\_gaussian = cv2.GaussianBlur(image, (5, 5), 0)

# Display the original and blurred images

cv2.imshow('Original Image', image)

cv2.imshow('Gaussian Blurred Image', blurred\_gaussian)

cv2.waitKey(0)

cv2.destroyAllWindows()