Shri Vile Parle Kelavani Mandal's
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC Accredited with "A" Grade (CGPA : 3.18)

Department of Artificial Intelligence & Machine Learning
Academic Year 2023-2024

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Experiment No. 5C

Aim: Feature Detection in Images

Objective: Develop a program to detect features in an Image (Corner)

Theory:

Harris Corner detection algorithm was developed to identify the internal corners of an image. The corners of an image are basically identified as the regions in which there are variations in large intensity of the gradient in all possible dimensions and directions. Corners extracted can be a part of the image features, which can be matched with features of other images, and can be used to extract accurate information. Harris Corner Detection is a method to extract the corners from the input image and to extract features from the input image

Problem Definition

- Corner Detection using Harris Operator

Observations

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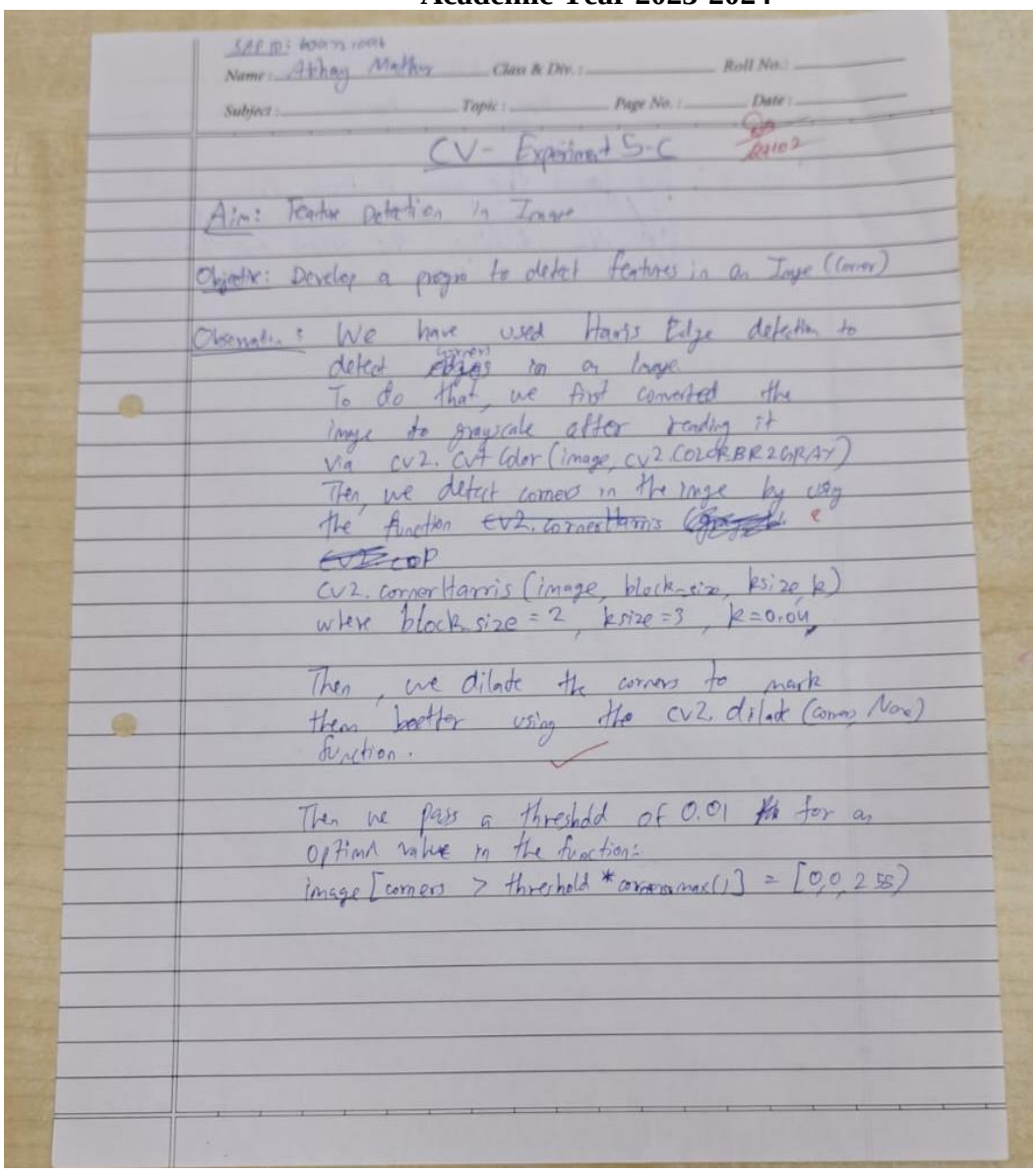

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CV- Experiment 5-C

Aim: Feature detection in Image

Objective: Develop a program to detect features in an Image (Corner)

Observation: We have used Harris Edge detection to detect corners in an image.
To do that, we first converted the image to grayscale after reading it via cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
Then, we detect corners in the image by using the function cv2.cornerHarris()
cv2.cornerHarris(image, block_size, ksize, k)
where block_size = 2, ksize = 3, k = 0.04

Then, we dilate the corners to mark them better using the cv2.dilate(corners, None) function.

Then we pass a threshold of 0.01 for an optimal value in the function:
image[corners > threshold * corners.max()] = [0, 0, 255]

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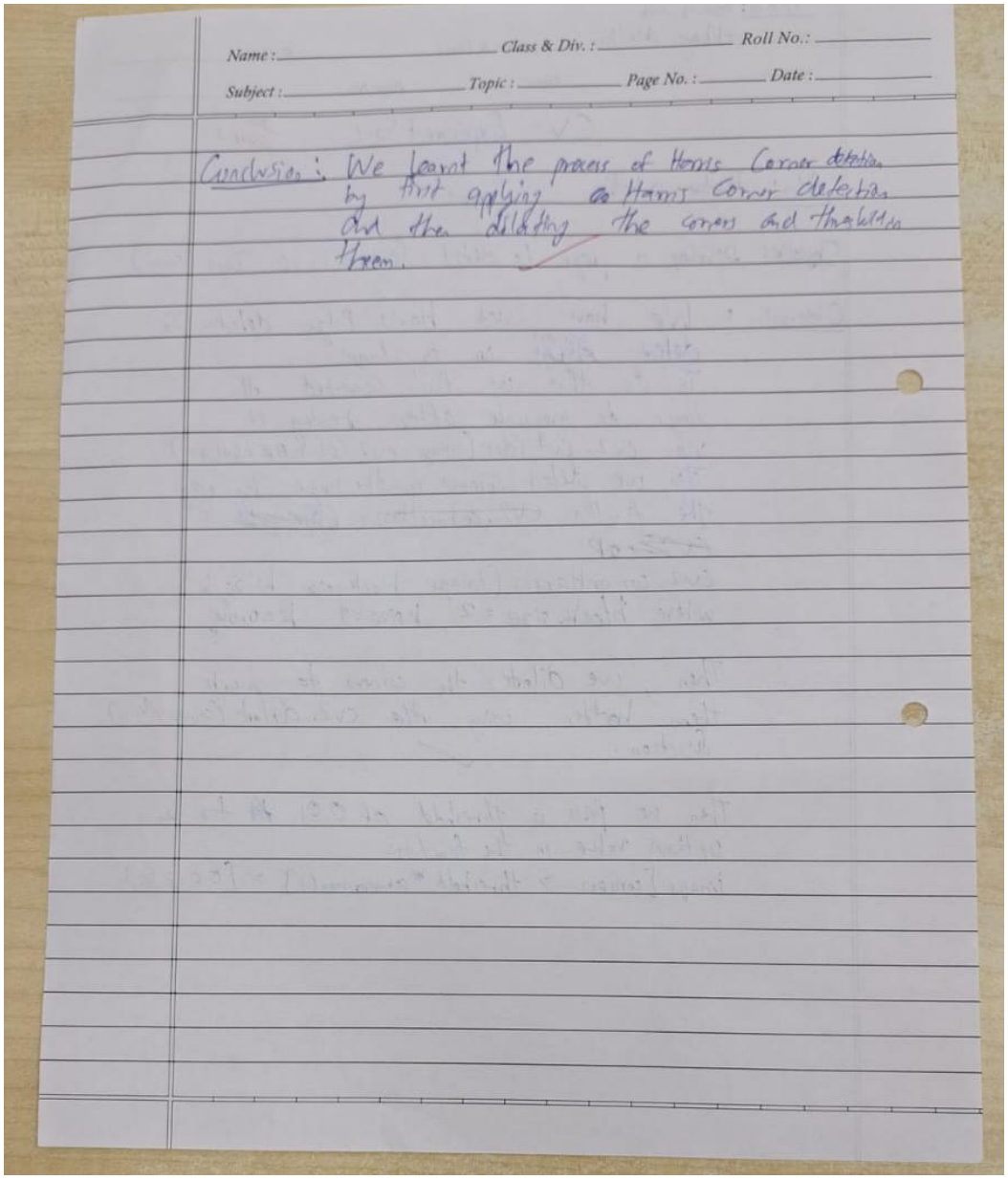
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Conclusion : We learnt the process of Harris Corner detection by first applying the Harris Corner detection and then plotting the corners and thresholding them.