Assignment 4

Adarsh T Shah, MTech AI, 19473

Image Down sampling:

Figure 1 Downsampled Image without Preprocessing. Ringing Artifacts due to aliasing

Figure 2 Downsampled Image After Gaussian Filter

Figure 3 Using Inbuilt Function PyrDown
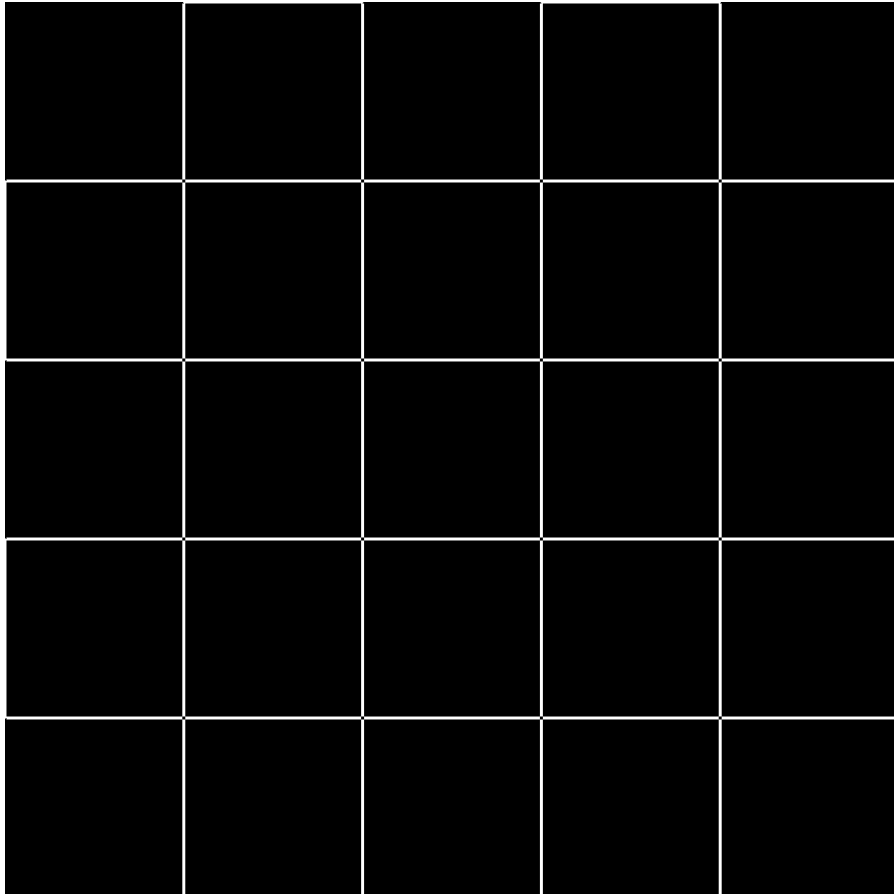
Edge Detection:
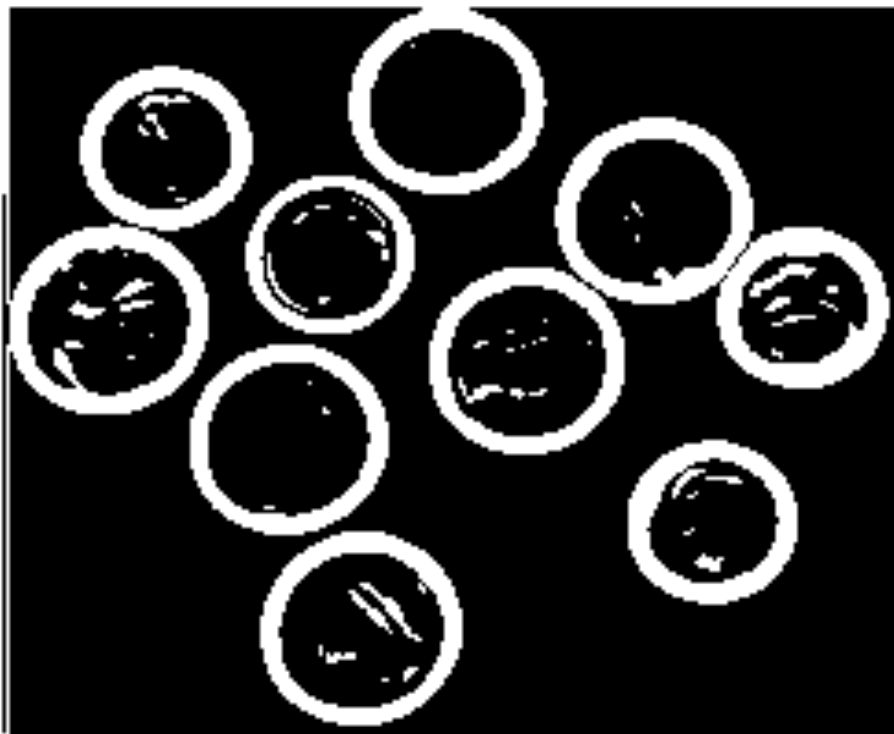

Figure 4 Sobel Prewitt on Checkboard.png

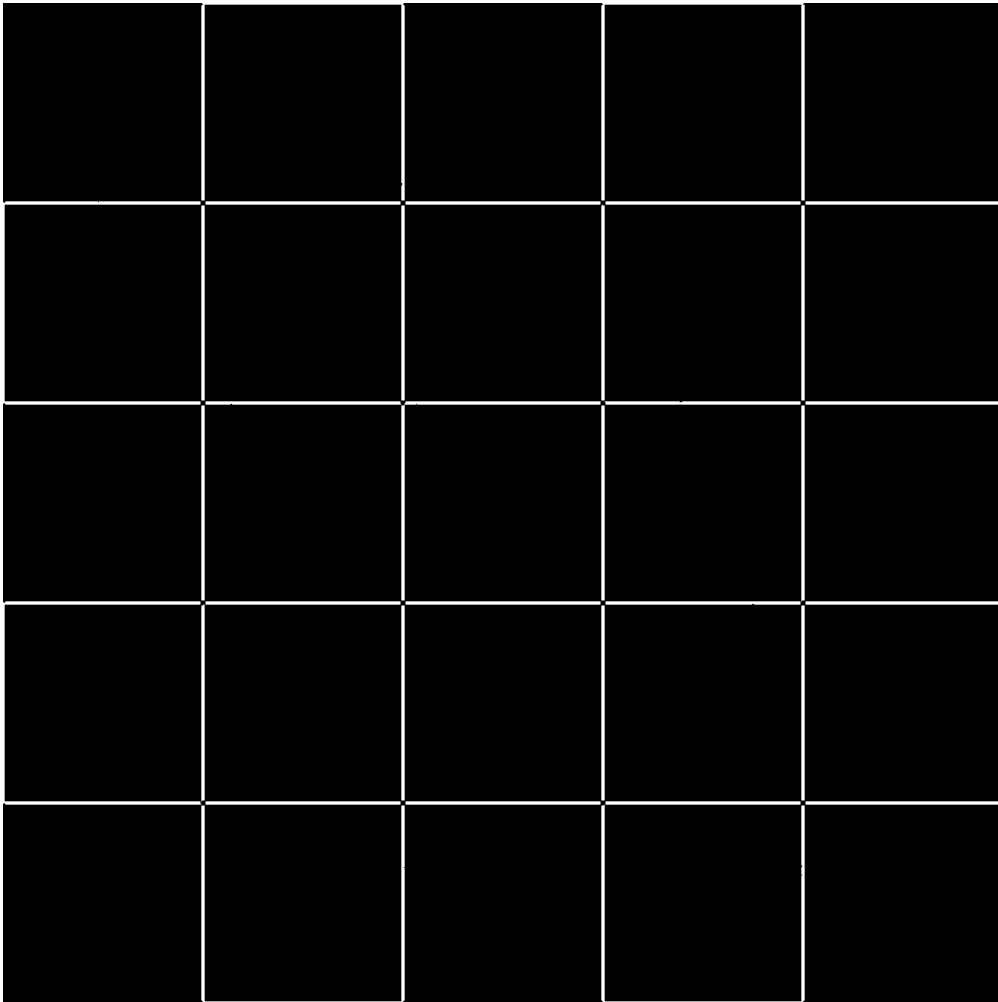*Figure 5 Sobel Prewitt on Coins.png*
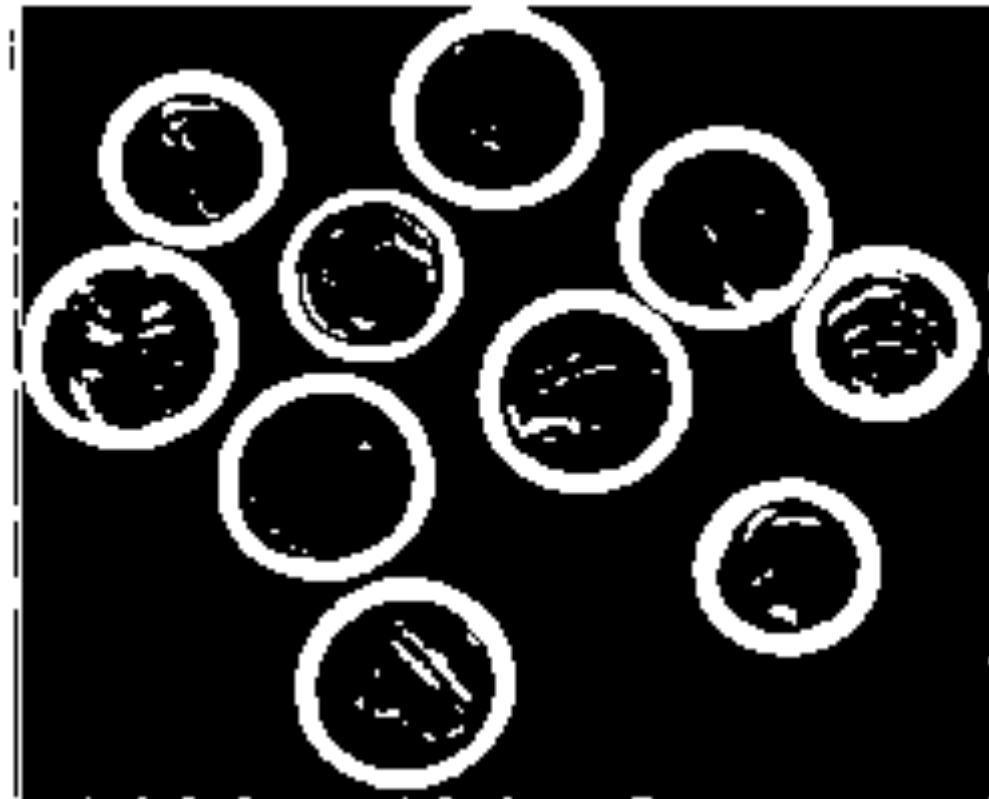
Figure 6 Sobel Prewitt on NoisyCheckerboard.png

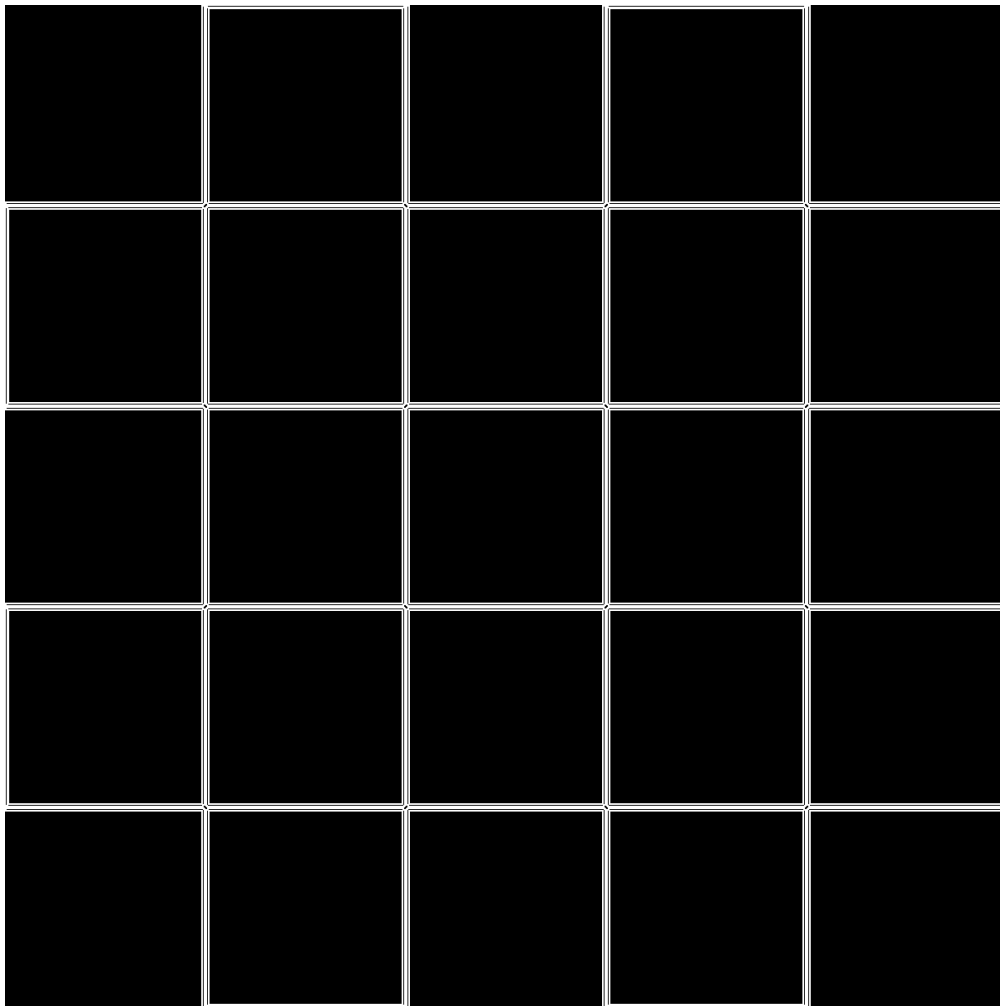Figure 7 Sobel Prewitt on NoisyCoins.png
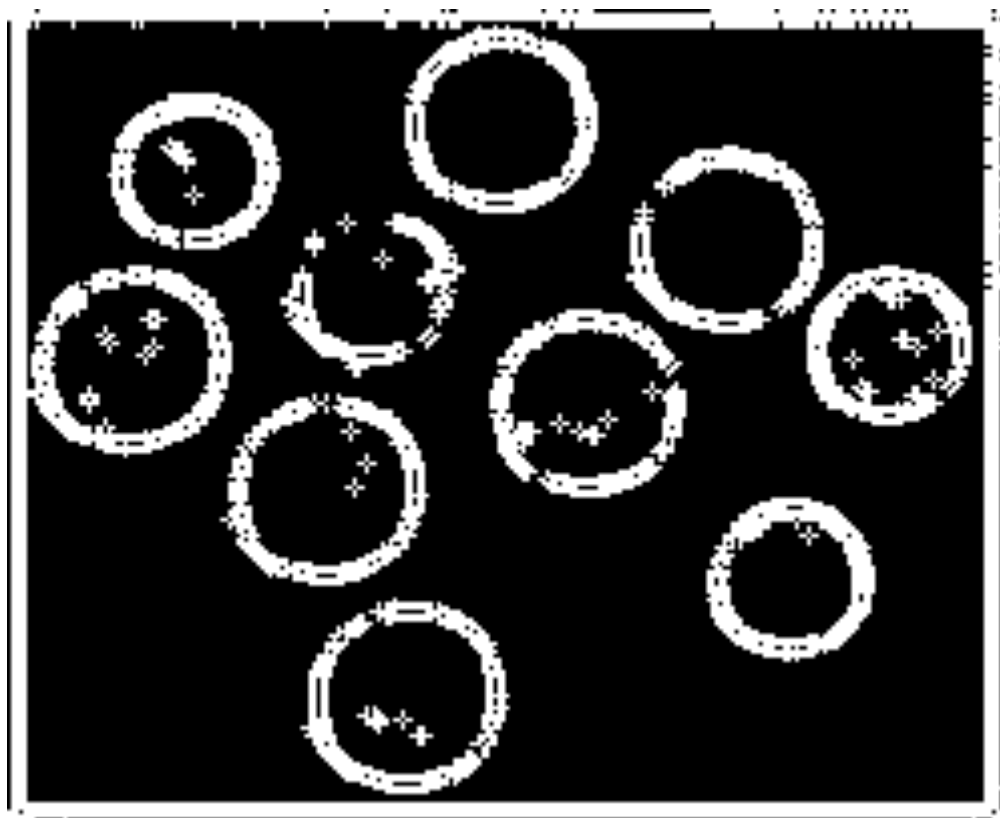
Figure 8 Laplacian on Checkerboard.png

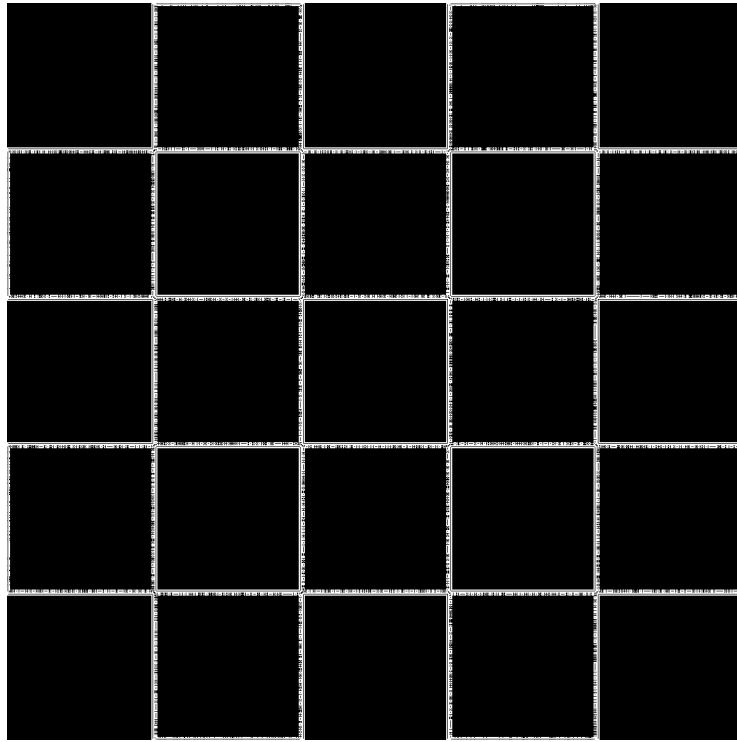*Figure 9 Laplacian on Coins.png*

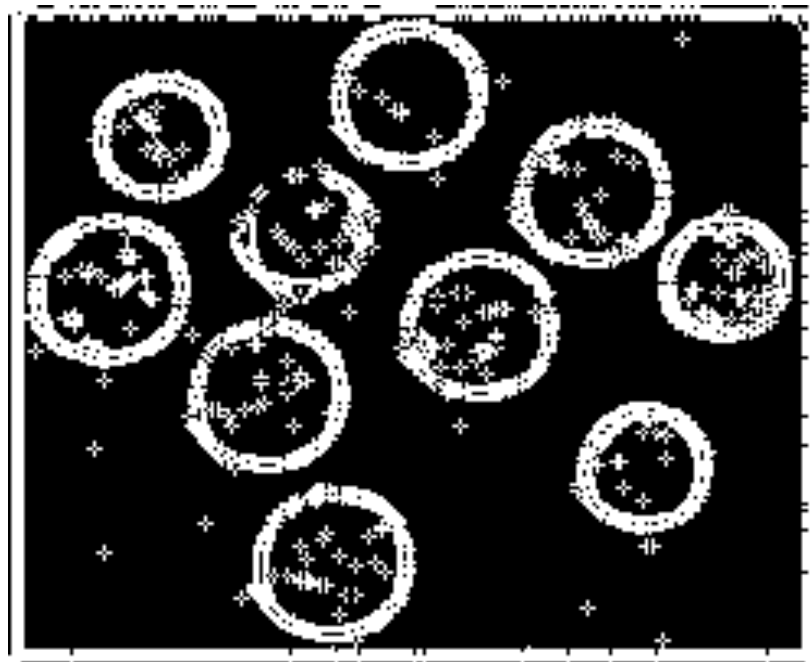*Figure 10 Laplacian on NoisyCheckerboard.png*

Figure 11 Laplacian on NoisyCoins.png

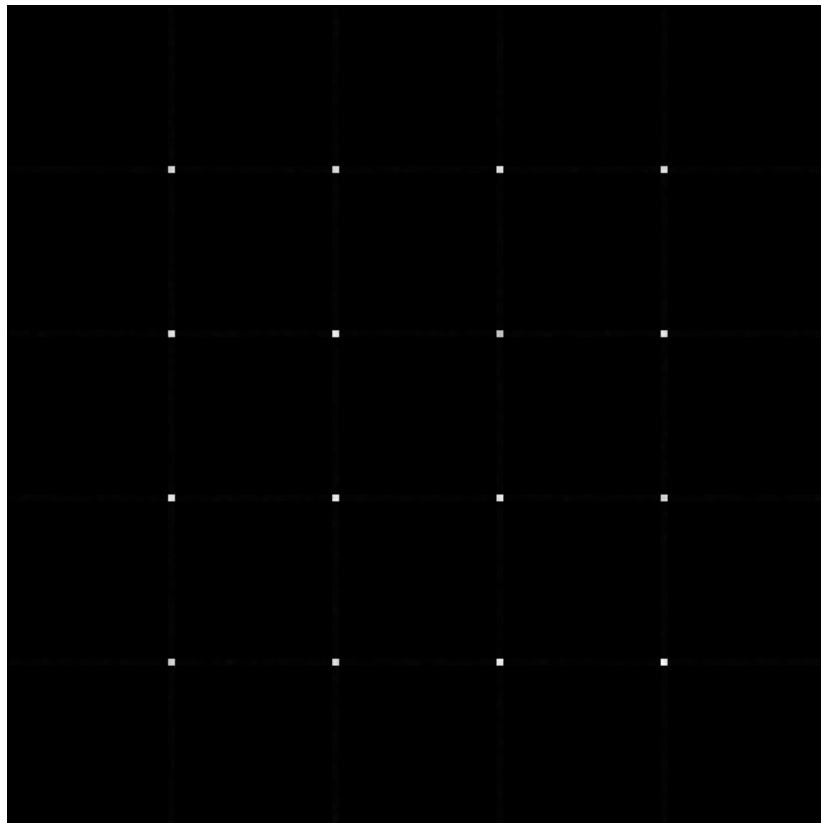The results show that Laplacian is susceptible to noise.

Harris Corner Detection
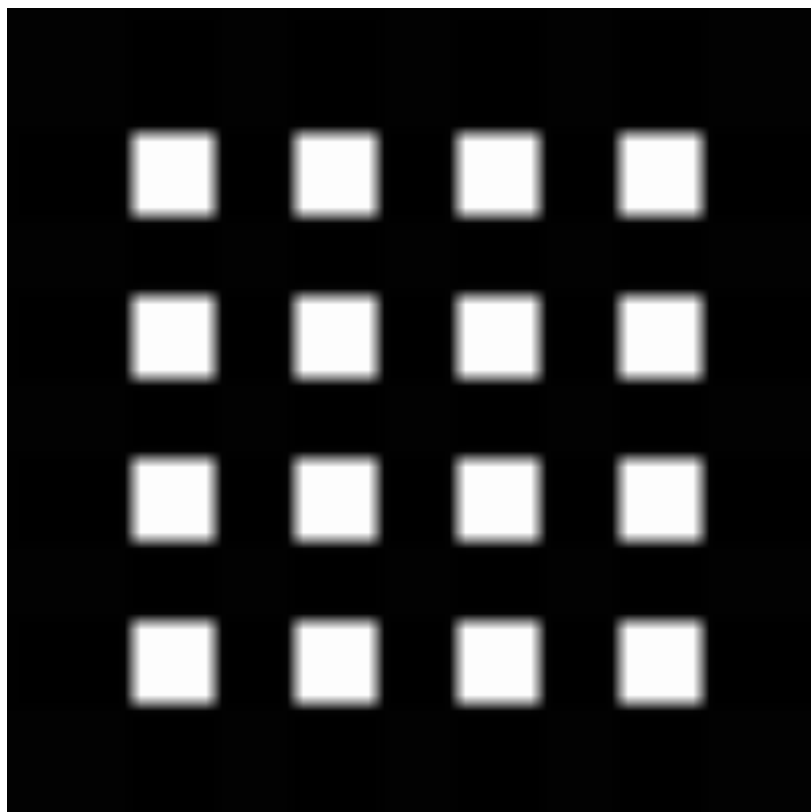

Figure 12 Original Checkerboard.png
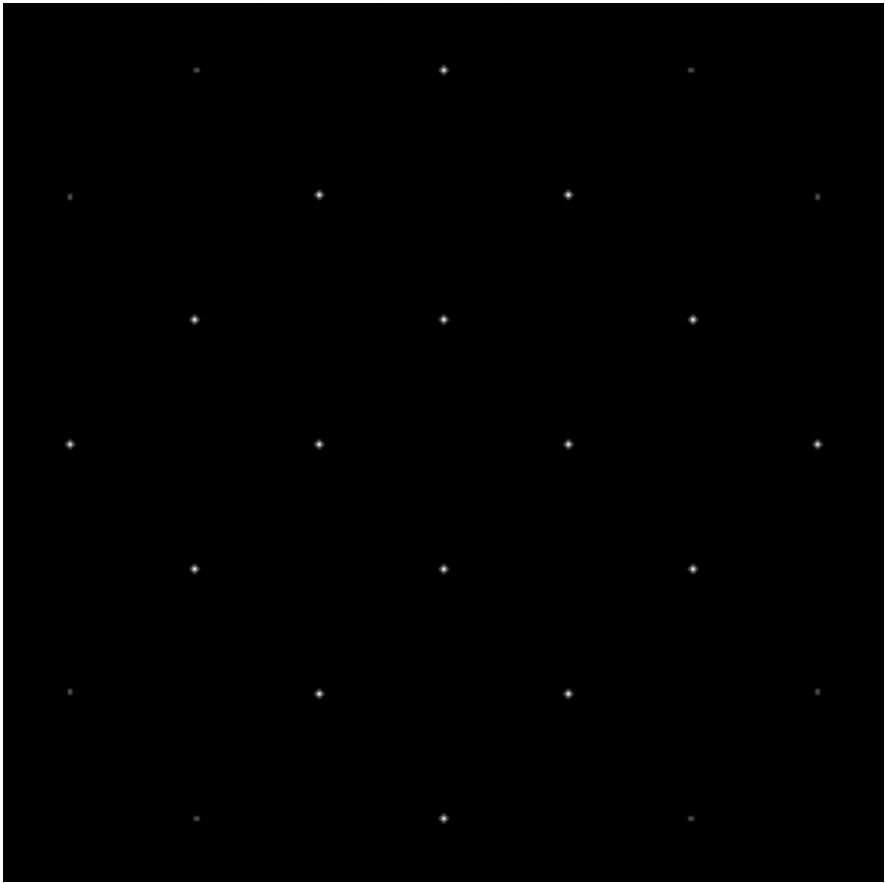

Figure 13 Downsampled Checkerboard.png
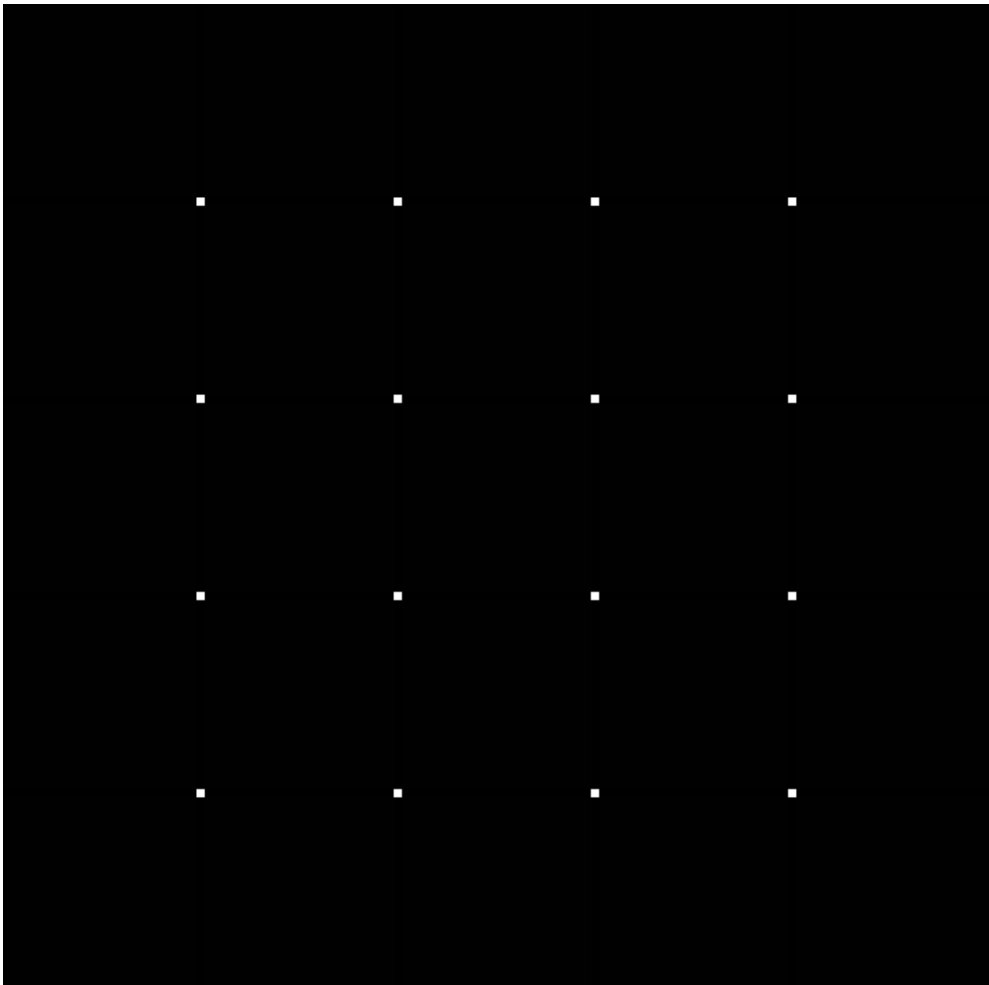
Figure 14 Rotated Checkerboard.png

Figure 15 NoisyCheckerboard.png
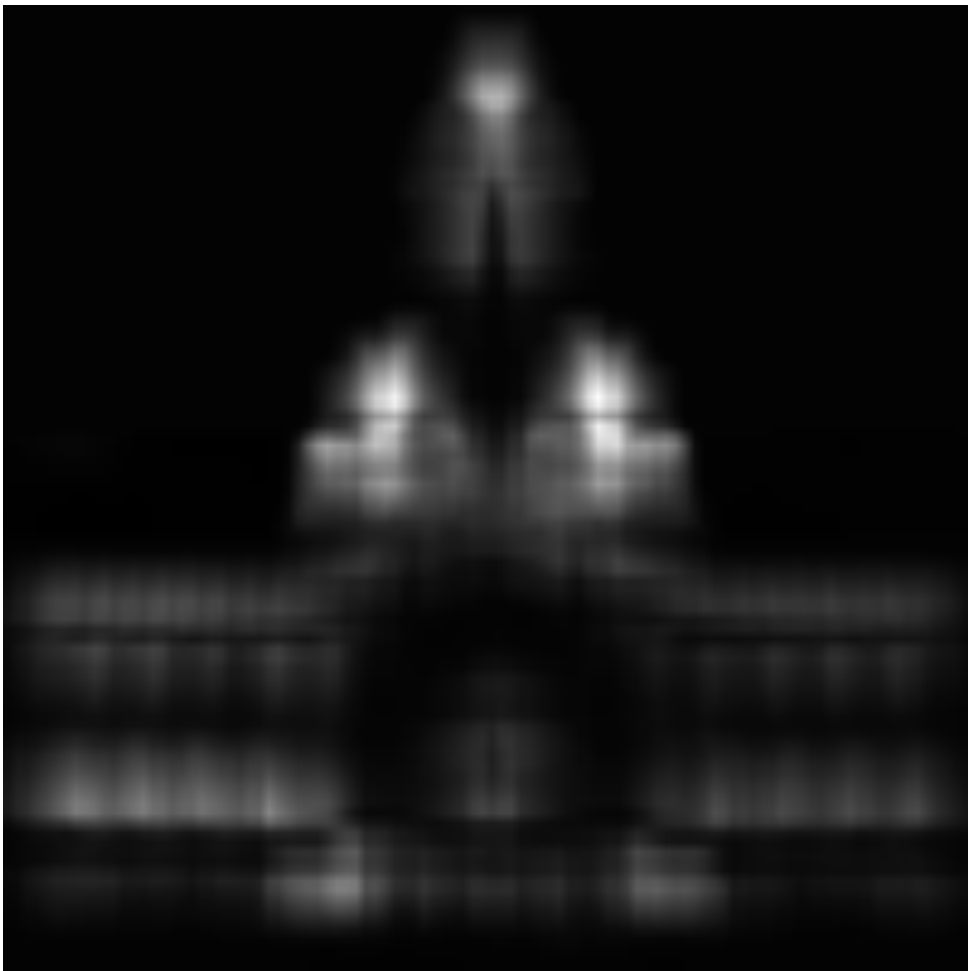
Figure 16 IIScMainBuilding.png

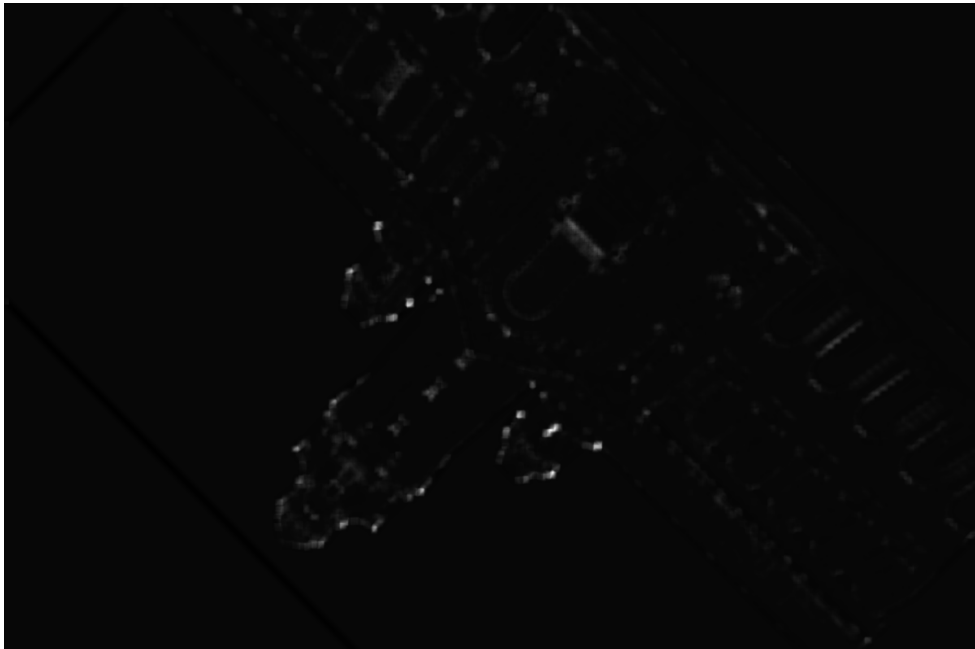*Figure 17 Downsampled IIScMainBuilding.png*

Figure 18 Rotated IIScMainBuilding.png

Figure 19 NoisyIIScMainBuilding.png

The results show that Harris Corner Detection algorithm is not scale invariant.