

```
% Performing canny edge detection on the entire image of GSU - Aderhold Building
I = rgb2gray(imread("Image_1.jpeg"));
imshow(I);
title("Gray Scale Image");
```

Gray Scale Image



```
N = edge(I, 'Canny');
imshow(N);
title("Canny Edge Detection Result");
```

Canny Edge Detection Result



```
% Performing Harris Corner detection on the entire image of 90 Auburn Ave  
% at GSU  
H_image = rgb2gray(imread("Image2.jpeg"));  
imshow(H_image)
```



```
corners1 = detectHarrisFeatures(H_image);
title("Harris Corner Detection Result");
imshow(H_image); hold on;
plot(corners1);
```



```
corners1
```

```
corners1 =  
1377x1 cornerPoints array with properties:
```

```
Location: [1377x2 single]  
Metric: [1377x1 single]  
Count: 1377
```

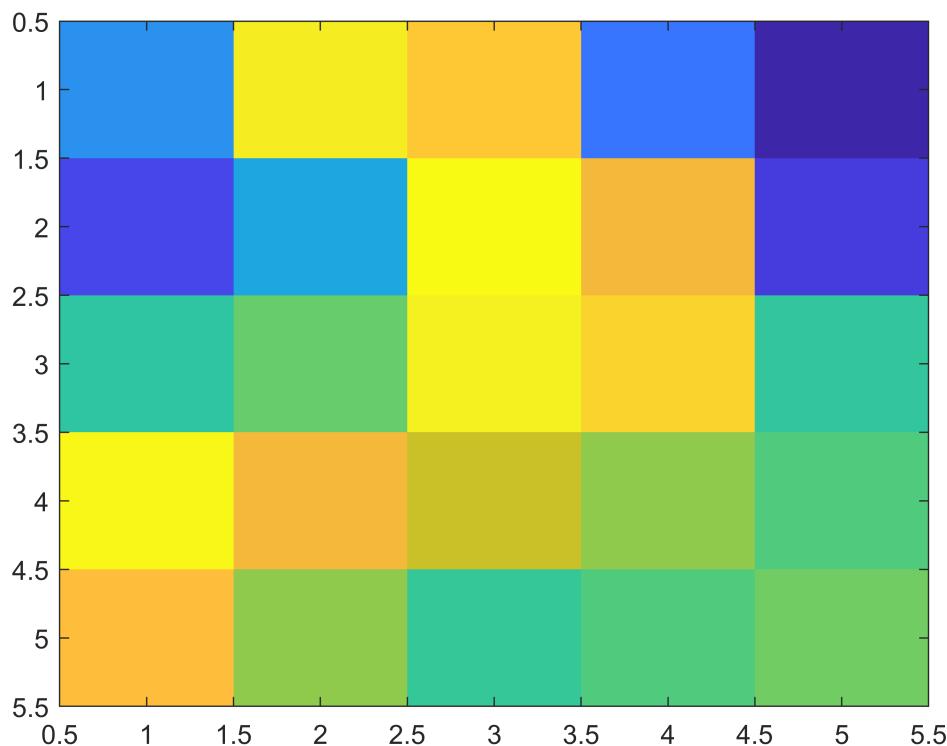
```
% Identifying the Patches of Image 1 from Line #2  
imSz = size(I);  
patchSz = [5 5];  
xIdxs = [1:patchSz(2):imSz(2) imSz(2)+1];  
yIdxs = [1:patchSz(1):imSz(1) imSz(1)+1];  
patches = cell(length(yIdxs)-1,length(xIdxs)-1);  
for i = 1:length(yIdxs)-1  
    Isub = I(yIdxs(i):yIdxs(i+1)-1,:);  
    for j = 1:length(xIdxs)-1  
        patches{i,j} = Isub(:,xIdxs(j):xIdxs(j+1)-1);  
    end  
end
```

```
% Selecting a region of the image - Patch{20,3} and performing HCD  
N=figure, imagesc(patches{20,3})
```

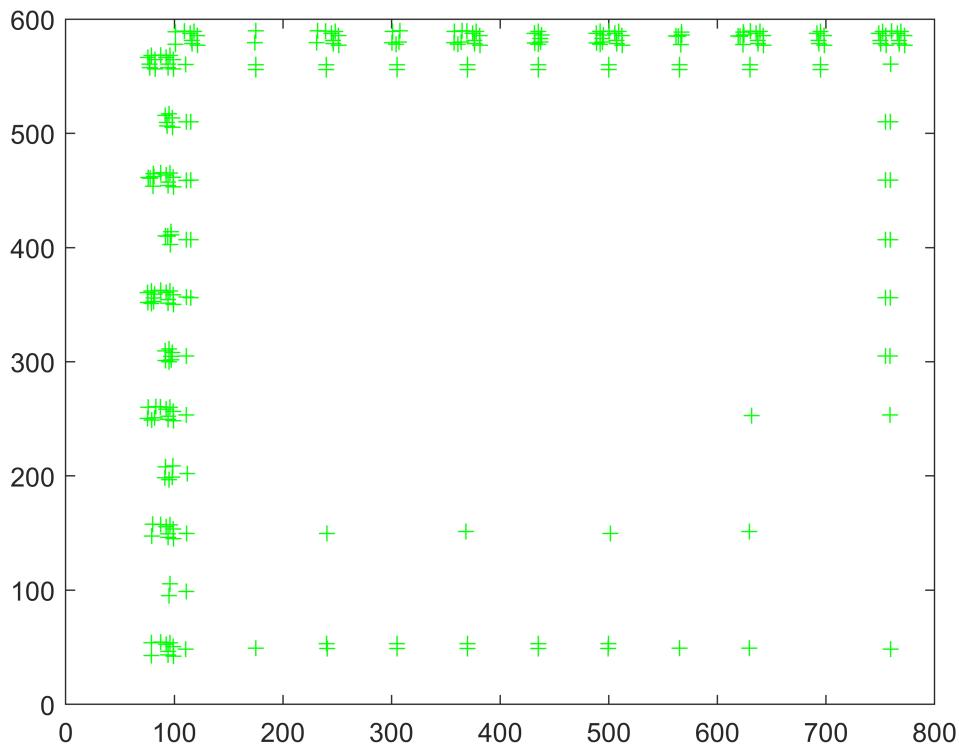
```
N =  
Figure (4) with properties:  
  
Number: 4  
Name: ''  
Color: [0.9400 0.9400 0.9400]  
Position: [360 198 560 420]  
Units: 'pixels'
```

Show all properties

```
F = getframe(N);
```



```
[X, Map] = frame2im(F);  
X_image = rgb2gray(X);  
corners_2 = detectHarrisFeatures(X_image);  
plot(corners_2);
```



```
% Selecting a region of the image - Patch{13,30} and performing CED
P=figure, imagesc(patches{13,30})
```

P =
Figure (6) with properties:

```
Number: 6
Name: ''
Color: [0.9400 0.9400 0.9400]
Position: [360 198 560 420]
Units: 'pixels'
```

Show all properties

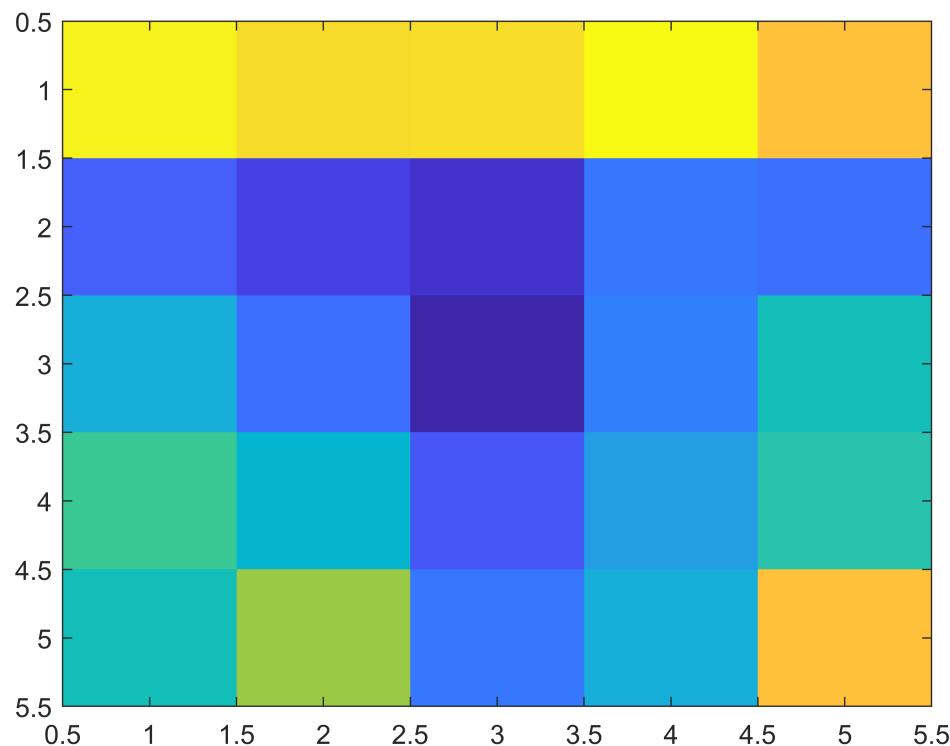
P

```
P =
Figure (6) with properties:
```

```
Number: 6
Name: ''
Color: [1 1 1]
Position: [360 198 560 420]
Units: 'pixels'
```

Show all properties

```
T = getframe(P);
```



```
[S, Map] = frame2im(T);
S_image = rgb2gray(S);
N_2 = edge(S_image, 'Canny');
plot(N_2);
```

