

CHI CLAUDETTE MAH

FE18A018

SOFTWARE

## DIGITAL IMAGE PROCESSING ASSIGNMENT

### Line Detection

#### MATLAB Command

```
S = imread('star.jpg');
T = rgb2gray(S);
Z = graythresh(T);
mask1 = [-1 -1 -1; 2 2 2; -1 -1 -1];
mask2 = [2 -1 -1; -1 2 -1; -1 -1 2];
mask3 = [-1 2 -1; -1 2 -1; -1 2 -1];
mask4 = [-1 -1 2; -1 2 -1; 2 -1 -1];

%filtering the image
If1 = imfilter(T, mask1);
If2 = imfilter(T, mask2);
If3 = imfilter(T, mask3);
If4 = imfilter(T, mask4);

Sf1 = abs(If1);
Sf2 = abs(If2);
Sf3 = abs(If3);
Sf4 = abs(If4);
imshow(If1);
[m,n] = size(If1);
for row = 1:m
    for col = 1:n

        I1 = Sf1(row,col);
        I2 = Sf2(row,col);
        I3 = Sf3(row,col);
        I4 = Sf4(row,col);
        temp = [I1 I2 I3 I4];
        C(row,col) = max(temp);
    end
end
C_th = im2bw(C,Z);
subplot(3,3,1);
imshow(S);
title("Original Image");
subplot(3,3,2);
imshow(If1);
title("mask1 image");
subplot(3,3,3);
imshow(If2);
```

```

title("mask2 image");
subplot(3,3,4);
imshow(I13);
title("mask3 image");
subplot(3,3,5);
imshow(I14);
title("mask4 image");
subplot(3,3,6);
imshow(C_th);
title("Final mage generated");

```

## Result

