

Example - Moravec

```
clear all
close all

I1 = double(imread('test000.jpg'));

N = 15;
hh = ones(1,N);      % horizontal
hv = hh';           % vertical
hd1 = eye(N,N);     % diagonal1
hd2 = fliplr(hd1);  % diagonal2

uh = (1/N)*imfilter(I1, hh); % mean of horizontal
uv = (1/N)*imfilter(I1, hv); % mean of vertical
ud1 = (1/N)*imfilter(I1, hd1); % mean of diagonal1
ud2 = (1/N)*imfilter(I1, hd2); % mean of diagonal2

I1sq = I1 .^ 2;
u2h = (1/N)*imfilter(I1sq, hh); % mean of horizontal squares
u2v = (1/N)*imfilter(I1sq, hv); % mean of vertical squares
u2d1 = (1/N)*imfilter(I1sq, hd1); % mean of diagonal1 squares
u2d2 = (1/N)*imfilter(I1sq, hd2); % mean of diagonal2 squares

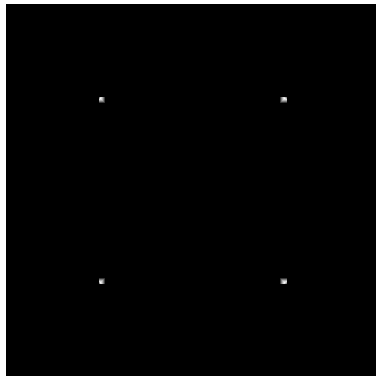
varh = u2h - uh.^2; % variance of horizontal
varv = u2v - uv.^2; % variance of vertical
vard1 = u2d1 - ud1.^2; % variance of diagonal1
vard2 = u2d2 - ud2.^2; % variance of diagonal2

Iinterest = min(min(varh,varv), min(vard1,vard2));
imshow(Iinterest,[]);
```

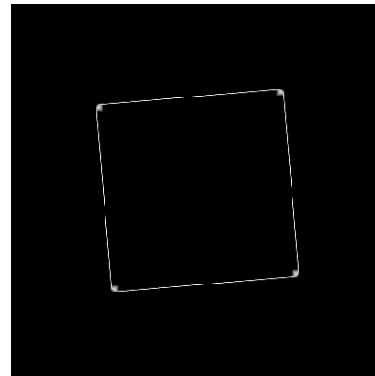
- Try Moravec operator on image “test000.jpg”

Example - Moravec

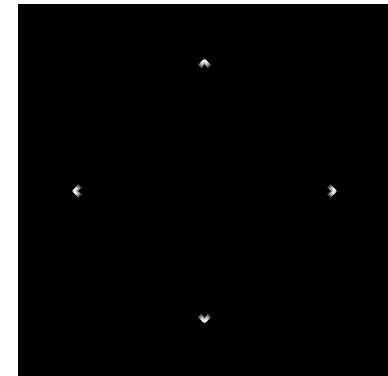
- Try Moravec operator on synthetic image of square
 - then rotate the square
 - vary the size of the operator



0 degrees



5 degrees



45 degrees

```

% Detect interest points using Moravec operator
clear all
close all

for ang=0:5:90
    I1 = zeros(400,400);
    I1(100:300, 100:300) = 1.0;
    I1 = imrotate(I1, ang, 'crop');

    N = 5;
    hh = ones(1,N);      % horizontal
    hv = hh';           % vertical
    hd1 = eye(N,N);     % diagonal1
    hd2 = fliplr(hd1);  % diagonal2

    uh = (1/N)*imfilter(I1, hh); % mean of horizontal
    uv = (1/N)*imfilter(I1, hv); % mean of vertical
    ud1 = (1/N)*imfilter(I1, hd1); % mean of diagonal1
    ud2 = (1/N)*imfilter(I1, hd2); % mean of diagonal2

    I1sq = I1 .^ 2;
    u2h = (1/N)*imfilter(I1sq, hh); % mean of horizontal squares
    u2v = (1/N)*imfilter(I1sq, hv); % mean of vertical squares
    u2d1 = (1/N)*imfilter(I1sq, hd1); % mean of diagonal1 squares
    u2d2 = (1/N)*imfilter(I1sq, hd2); % mean of diagonal2 squares

    varh = u2h - uh.^2; % variance of horizontal
    varv = u2v - uv.^2; % variance of vertical
    vard1 = u2d1 - ud1.^2; % variance of diagonal1
    vard2 = u2d2 - ud2.^2; % variance of diagonal2

    Iinterest = min(min(varh,varv), min(vard1,vard2));
    imshow(Iinterest,[]);
    pause
end

```