**Breast Cancer Detection Using Thermalytix**

clc;

clear;

close all;

a = imread('thermo.png');

b = rgb2gray(a);

J = imnoise(b, 'salt & pepper', 0.02);

NoisyImage = J;

[R, C, P] = size(NoisyImage);

OutImage = zeros(R, C);

figure;

for i = 1:R

for j = 1:C

if (i == 1 && j == 1)

elseif (i == 1 && j == C)

elseif (i == R && j == 1)

elseif (i == R && j == C)

elseif (i == 1)

elseif (i == R)

elseif (j == C)

elseif (j == 1)

else

SR1 = NoisyImage(i-1,j-1);

SR2 = NoisyImage(i-1,j);

SR3 = NoisyImage(i-1,j+1);

SR4 = NoisyImage(i,j-1);

SR5 = NoisyImage(i,j);

SR6 = NoisyImage(i,j+1);

SR7 = NoisyImage(i+1,j-1);

SR8 = NoisyImage(i+1,j);

SR9 = NoisyImage(i+1,j+1);

TempPixel = [SR1, SR2, SR3, SR4, SR5, SR6, SR7, SR8, SR9];

Zxy = NoisyImage(i,j);

Zmin = min(TempPixel);

Zmax = max(TempPixel);

Zmed = median(TempPixel);

A1 = Zmed - Zmin;

A2 = Zmed - Zmax;

if A1 > 0 && A2 < 0

B1 = Zxy - Zmin;

B2 = Zxy - Zmax;

if B1 > 0 && B2 < 0

OutImage(i,j) = Zxy;

else

OutImage(i,j) = Zmed;

end

else

OutImage(i,j) = Zmed; % Simplified for clarity

end

end

end

end

imshow(OutImage, []);

disp('Image processed.');

meanIntensity = mean(OutImage(:));

if meanIntensity > threshold

disp('Breast cancer detected.');

else

disp('No breast cancer detected.');

end