%Assigns images folder the varaible “originalFolder”

originalFolder = 'images';

%Assigns preprocessed images folder the varaible “preprocessedFolder”

preprocessedFolder = 'preprocessed images';

%Check if the preprocessedFolder already exists using the exist function. If not, you create the folder using the mkdir function.

if ~exist(preprocessedFolder, 'dir')

mkdir(preprocessedFolder);

end

% Get the list of the names of the image files with jpeg extension using the dir funtion

ImageList = dir(fullfile('images', '\*.jpeg'));

%Loop over the images files for the nummber of records in ImageList which is the number of images in the image folder

for i = 1:length(ImageList)

currentImagePath = fullfile(originalFolder, ImageList(i).name);

Original\_Image = imread(currentImagePath); %read the image data

% Resizing the image to 500x500 pixels using imresize function

resizedImage = imresize(Original\_Image, [500, 500]);

% Opening an interactive window to rotate the image

figure(1);

imshow(resizedImage);

title('Resized image');

%Prompt user to enter the roation angle

rotationAngle = input('Enter rotation angle (in degrees): ');

%rotate the image by the specified angle

rotatedImage = imrotate(resizedImage, rotationAngle);

close;

% Reduce the noise of the image using a Gaussian Filter to the image with standard deviation of 3 using the imgaussfilt function.

denoised = imgaussfilt(rotatedImage, 3);

%For the preprocessed image generate a new image, and save the

...preprocessed image in 'preprocessed images' folder

outputFileName = sprintf('image\_%d.jpeg', i);

outputFilePath = fullfile(preprocessedFolder, outputFileName);

imwrite(denoised, outputFilePath);

end