**Aim: Canny edge detection Algorithm**

% Load the sample image

originalImage = imread('one.jpeg'); % Load your image here

% Convert the image to grayscale if it's not already

if size(originalImage, 3) == 3

grayImage = rgb2gray(originalImage);

else

grayImage = originalImage;

end

% Apply Gaussian smoothing to reduce noise and enhance edges

sigma = 1.5; % Adjust the Gaussian filter's standard deviation as needed

smoothedImage = imgaussfilt(grayImage, sigma);

% Perform Canny edge detection

lowThreshold = 0.1; % Adjust the low threshold as needed (suggested range: 0.1-0.4)

highThreshold = 0.3; % Adjust the high threshold as needed (suggested range: 0.3-0.7)

edgeImage = edge(smoothedImage, 'Canny', [lowThreshold highThreshold]);

% Display the original and edge-detected images side by side

subplot(1, 2, 1);

imshow(grayImage);

title('Original Grayscale Image');

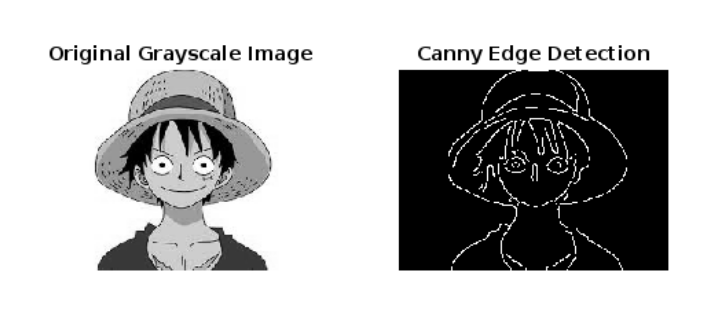
subplot(1, 2, 2);

imshow(edgeImage);

title('Canny Edge Detection');

% Save the edge-detected image if needed

imwrite(edgeImage, 'canny\_edges.jpg'); % Save the edge-detected image

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