
```

function [C, T] = CMatrix(verticalPrewitt, horizontalPrewitt, It,
    boxFilterSize)

verticalHorizontalPrewitt = verticalPrewitt .* horizontalPrewitt;
verticalPrewittSquared = verticalPrewitt .* verticalPrewitt;
horizontalPrewittSquared = horizontalPrewitt .* horizontalPrewitt;

verticalTemporal = verticalPrewitt .* It;
horizontalTemporal = horizontalPrewitt .* It;

boxFilter = ones(boxFilterSize, boxFilterSize)./(boxFilterSize *
    boxFilterSize);

boxFilterVerticalHorizontalPrewitt =
    imfilter(verticalHorizontalPrewitt, boxFilter);
boxFilterVerticalPrewitt = imfilter(verticalPrewittSquared,
    boxFilter);
boxFilterHorizontalPrewitt = imfilter(horizontalPrewittSquared,
    boxFilter);
boxFilterVerticalTemporal = imfilter(verticalTemporal, boxFilter);
boxFilterHorizontalTemporal = imfilter(horizontalTemporal, boxFilter);

sizeMatrix = size(verticalHorizontalPrewitt);
sizeX = sizeMatrix(1);
sizeY = sizeMatrix(2);

C = zeros(sizeX, sizeY, 2, 2);
T = zeros(sizeX, sizeY, 2, 1);
for i = 1:sizeX
    for j = 1:sizeY
        C(i,j, :, :) = [boxFilterHorizontalPrewitt(i, j)
            boxFilterVerticalHorizontalPrewitt(i, j)
            boxFilterVerticalPrewitt(i, j)];
        T(i,j, :, :) = [boxFilterHorizontalTemporal(i, j);
            boxFilterVerticalTemporal(i, j)];
    end
end

end

```

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