

**Content Based Image Retrieval - CSE3018**  
**Lab 4 - Auto Correlogram**

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1. Implement a CBIR system that uses features derived from Auto Correlogram Descriptors.

Code:

```
function correlogram_vector=auto_correlogram(I,distance_vector)
correlogram_vector=[];
[Y,X]=size(rgb2gray(I));
[img_no_dither, ~] = rgb2ind(I, 64, 'nodither');
[~,d]=size(distance_vector);
count_matrix=zeros(64,d);
total_matrix=zeros(64,d);
prob_dist=cell(1,d);
for serial_no=1:1:d
for x=1:X
for y=1:Y
color=img_no_dither(y,x);
% At the given distance
[positive_count,total_count]=get_n(distance_vector(serial_no),x,y,color,img_no_dither,X,Y);
count_matrix(color+1,serial_no)=count_matrix(color+1,serial_no)+positive_count;
total_matrix(color+1,serial_no)=total_matrix(color+1,serial_no)+total_count;
end
end
prob_dist{serial_no}=count_matrix(:,serial_no)./(1+total_matrix(:,serial_no));
end
for serial_no=1:d
correlogram_vector=cat(1,correlogram_vector,prob_dist{serial_no});
end
end

queryimg = imread('C:\Users\TEMP\Desktop\query.jpg');
correlogram_query = auto_correlogram(queryimg, [1]);
manh = [];
for i = 1:99
data = imread(strcat('C:\Users\TEMP\Desktop\images\',source(i).name));
correlogram_img = auto_correlogram(data, [1]);
cityr = sum(abs(correlogram_img-correlogram_query));
```

```

manh(i) = cityr;
end
manh;
sorted_m = sort(manh);
res = [0,0,0,0,0,0,0,0,0,0];
for i = 1:10
img = sorted_m(i);
for j = 1:99
if(res(j)==1)
continue
end
if(img==manh(j) && ~ismember(j,sol))
sol(i) = j;
img = imread(strcat('C:\Users\TEMP\Desktop\images\',source(j).name));
subplot(2,5,i); imshow(img);
break
end
end
End

```

Screenshot:

