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2017100

MCA Assignment - 1

1. Color Correlogram

Features file = ‘features256.pkl’
Number of colors = m = 256
Size of the distance vector = d = 3
Correlogram size = m *d = 768
Various metrics calculated are listed below:

Metric	Value
Maximum Precision	0.10344827586206896
Minimum Precision	0.0
Average Precision	0.017532921799883954
Maximum Recall	0.10344827586206896
Minimum Recall	0.0
Average Recall	0.017532921799883954
Maximum F1 Score	0.017733990147783252
Minimum F1 Score	0.0
Average F1 Score	0.0020082052150901092
Average Retrieval Time	3.151526523358894
Average Good Retrieved	2.2894915541974368
Average Junk Retrieved	1.1724478950166648
Average Ok Retrieved	1.3777622973025272

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Formulae used:

a. Precision = Recall = F1 = $\frac{Total\ Number\ of\ Good/Junk/Ok\ images\ retrieved}{Total\ Number\ of\ images\ retrieved}$

b. Percentage of Good Images retrieved = $\frac{Total\ Number\ of\ Good\ Images\ retrieved}{Total\ Number\ of\ Good\ Images\ for\ a\ query}$

c. Percentage of Junk Images retrieved = $\frac{Total\ Number\ of\ Junk\ Images\ retrieved}{Total\ Number\ of\ Junk\ Images\ for\ a\ query}$

d. Percentage of Ok Images retrieved = $\frac{Total\ Number\ of\ Ok\ Images\ retrieved}{Total\ Number\ of\ Ok\ Images\ for\ a\ query}$

2. Scale Invariant Blob Detection

No. of queries used: 5
Blobs file = ‘blobs.pkl’\
Instructions to run: Uncomment the part which plots the graphs to visualize it. To avoid a program crash, plot and view one graph at a time.

3. SURF

No. of queries used: 5
Key points file = ‘surf_keypoints.pkl’
Instructions to run: Uncomment the part which plots the graphs to visualize it. To avoid a program crash, plot and view one graph at a time.