EEE3032 – Computer Vision and Pattern Recognition

Coursework Assignment

Visual Search of an Image Collection

NAM TRAN

Online. 6772766

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| **Req** | **Requirement** | **Mark** |
| 1. | **Global colour histogram (to 30%)** | %23 |
| Well done. The color histogram is extracted for image searching. However, different q/bins should be explored for better performance. |
| 2. | **Evaluation methodology (to 25%)** | %20 |
| Precision, recall, and PR curve are implemented to evaluate the result for several classes. It would be better if you can draw a PR curve by changing the distance threshold which can affect your model performance. Moreover, a confusion matrix can help you better visualize your result to get some intuition. |
| 3. | **Spatial Grid (to 15%)** | %11 |
| Well done. Input images are split into grids, and texture and color features are extracted for them. It would be better if you can discuss what is the best strategy to split images in detail. |
| 4. | **Use of PCA (to 15%)** | %13 |
| PCA is performed. What is interesting is you have tried to keep different percentages of variances of the eigenvectors. |
| 5. | **Different descriptors and distance measures (to 15%)** | %13 |
| Well done. The combinations of different distance measures and different feature inputs are explored. |
| 6. | **Bag of Visual Words retrieval (optional/hard, to 40%)** | %25 |
| Well done. BoVW is introduced clearly and implemented. However, it can be better if you can find the best parameter for BoVW and demonstrate your dictionary visually. |
| 7. | **Object classification using SVM (optional/hard, to 30%)** | %0 |
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| 8. | **Extra Credit (optional, to 20%)** | 0% |
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|  | **FINAL MARK** | %100 |
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**General Comments: Congratulations. Congratulations. You finished most of the tasks. And it is really interesting you can generally finish task 6. However, to deliver a more solid technical report, you need to go further deep to select the best parameters for each technique and conclude what you found.**