MO444 1s2018 - First Assignment

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1. Introduction

2. Feature extraction

2.1. LBP

https://www.kaggle.com/c/sp-society-camera-model-identification#description

https://www.pyimagesearch.com/2015/12/07/local-binary-patterns-with-python-opencv/

http://scikit-image.org/docs/dev/auto_examples/features_detection/plot_local_binary_pattern.html

3. Logistic Regression

binary cross-entropy loss function 1

$$J_\theta = -\frac{1}{N}\sum_{i=1}^{N}[y_i \log(\hat{y}_i) + (1-y_i)\log(1-\hat{y}_i)] \quad (1)$$

This competition is evaluated on the weighted categorization accuracy of your predictions (the percentage of camera models correctly predicted).

$$\text{weighted accuracy}(y, \hat{y}) = \frac{1}{n}\sum_{i=1}^{n}\frac{w_i(y_i = \hat{y}_i)}{\sum w_i} \quad (2)$$

where n is the number of samples in the test set, y is the true camera label, $\hat{y}$ is the predicted camera label, and w_i is 0.7 for unaltered images, and 0.3 for altered images.

4. Results and Discussion

5. Conclusions

References

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