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Using Colors as Tags in Folksonomies to Improve Image Classification

Objective

Does combination of low level features and tags help?

Feature Spaces



- Bag of words model from tags associated with images
- Dominant color of the images



london
londoneye
southbank
england
uk



Sample Feature Space

		
england	0	0.2
london	0.5	0.2
londoneye	0	0.2
southbank	0	0.2
stpaul	0.5	0
uk	0	0.2
Red	.129	0
Green	0	0
Blue	0	.145

Combined Features

One Class SVM

- Creates hyperplane between positive examples and origin
- Requires no negative training examples



Evaluation results

- ~1900 images from different Flickr groups, 6705 tags
- related to 20 different categories
- One Class linear SVM classifier (LIBSVM implementation)
- 50% images as training data for each category
- 50% images + images of all other categories as test data for each category

