# Test Methods for Image Dataset Evaluation

This project will use Machine Learning to characterize a database of 2D images with regard to their image variety. It is hoped to develop a general, content-free metric "q" to estimate the classification accuracy of the image data set, based on a normalized intensity of disjoint clusters derived from image segmentation. An example of the general, content-free metric "q" is shown below for a small q factor where

q = ∑ N(I) x D(I)

given I is intensity (0 – 255), N(I) is normalized number of disjoint clusters resulting from image segmentation with threshold = I; D(I) is cumulative number of pixels with intensity < I. For testing purposes, the [COCO database](http://cocodataset.org/#home) (~160,000 images) will be used to evaluate the general, content-free metric to estimate the classification accuracy. The research plan is to take results from COCO competitions and check if false positives & false negatives cluster in region of large q where database is underpopulated.

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