

## Measuring Multi-Class Linear Classifier for Image Classification

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**Abstract :** A simple and robust multi-class linear classifier is proposed and implemented. For a pair of classes of the linear boundary, a collection of segments of hyper planes created as perpendicular bisectors of line segments linking centroids of the classes or part of classes. Nearest Neighbor and Linear Discriminant Analysis are compared in the experiments to see the performances of each classifier in discriminating ripeness of oil palm. This paper proposes a multi-class linear classifier using Linear Discriminant Analysis (LDA) for image identification. Result proves that LDA is well capable in separating multi-class features for ripeness identification.

**Keywords :** multi-class, linear classifier, nearest neighbor, linear discriminant analysis

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