MLANN; Maximum Likelihood Approximate Nearest Neighbor in Real-time Image Recognition

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Abstract—In this report, the core algorithm of the MLANN is observed. We'll introduce the dataset which is going to be used as our train data. We'll also estimate the computational requirements for this project.

I. Introduction

FOR the task of statistical image recognition, the unknown densities of each class should be estimated at the first step. Suppose we have R reference images as $r \epsilon \{1, 2, 3, ..., R\}$. Statistical image recognition can be reduced to computing the distances between the input image X and the reference images X_r which is formally illustrated below:

$$W_v : v = \arg \min_r \rho(X, X_r)$$

W_v is the actual class of the input image.

References

[1] Schroff, Florian, Dmitry Kalenichenko, and James Philbin. "Facenet: A unified embedding for face recognition and clustering." Proceedings of the IEEE conference on computer vision and pattern recognition. 2015.

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