



## TOWARDS A MORE ACCURATE CONTENT BASED IMAGE RETRIEVAL USING KD-TREE AND DBSCAN

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**Abstract:** *The present paper addresses the problem of object image retrieval in a very large collection of images. The aim of this work is to retrieve- as accurately and as quickly as possible- similar occurrences of an object in a query image. Standard techniques in image retrieval use data clustering for fast search, typically using k-means, hierarchical or approximate k-means(AKM). Unfortunately, these algorithms do not perform well in the presence of outliers in addition to the need for a prior assumption about the number of clusters. The present paper claims that using DBSCAN density-based clustering algorithm; combined with a KD-Tree organization of the cluster's prototypes; enhance the performance of the retrieval system. The system presented in this paper also uses SIFT as it is proved to be invariant against transformations that might have occurred on this image in scale, viewpoint, lighting and partial occlusions. The implementation and evaluation of the proposed system show its superiority over existing ones.*

*Keywords—*dbscan; kd-tree; clustering; object retrieval