

ABSTRACT

OBJECT IDENTIFICATION IN DIGITAL IMAGES USING SINGLE LINKAGE CLUSTERING METHOD

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Object detection with color-based characterization is faster, but less accurate. One of the detection features that use color features is the clustering technique. Clustering techniques are commonly used in object detection, which works by characterizing objects in an image based on the object's color group. Single linkage clustering works by grouping the color pixels of an object based on the distance of the object's farthest neighbor. Each pixel is first considered a cluster, then each cluster searches for the furthest neighboring pixels to join a new cluster. The application made in this research leads to the implementation of object detection using the Single Linkage Clustering Technique. The implementation of the system uses Visual Basic 2010 programming language and the method used in this research is applied research. Where the identification results on several objects show quite good results on objects that have dominant colors. While objects with scattered colors produce poor accuracy due to the nature of Single Link Clustering is a centralized grouping so that the color of objects with scattered colors will produce the middle color as a feature of the object.

Keywords: Object Identification, Single Linkage Clustering, Digital Image,

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