

## Abstract

Methods that exist in digital image processing techniques are combined in an integrated way will be able to analyze the image of dental health. At this time, in modern dental care, dental photo image is often used as a tool of documentation, marketing tools, and communication tool to explain the procedure done at the time of treatment to patients. In addition, the photo image of the teeth also simplifies the process of communication between the dentist with a dental laboratory in the determination of medical steps.

Therefore, an analysis of the two methods of digital image processing, which is expected to be applied to the detection of image characteristics of the teeth. Both pieces of this method is a method of Medial Axis Transform (MAT) followed by the method of Histogram Intersection (HI). Both of these methods have different roles, where a detection method for dealing with a particular characteristic. Detection of their own teeth through two processes, the first is the process of tooth color detection, whereas the second process is the process of detection of dental morphology. For the detection of tooth color is made is the implementation of the HI by comparing the color distribution similarity between two images. As for the dental morphology of the detection process, the process is done is MAT method followed by HI method.

Results on the detection of these teeth indicate that both methods can be used for the detection of teeth with tooth color detection accuracy reaches 75% while the dental morphology of detection accuracy reaches 58.33%. Condition of the best detection accuracy is the detection of tooth color in the comparison image, the resulting accuracy can reach 85.71%.

**Keyword:** *Medial Axis Transform(MAT), Histogram Intersection, dental image*