

ABSTRACT

In proving criminal cases of immoral acts, murder cases, law enforcer has the role to uncover the truth behind the crime acts. There are so many ways in identifying the identity of the suspect, one of them is by using their bite marks. Bite marks that is used is the bite marks that is found on the victim's body in the form of a scar. The field where the experts are handling the bite marks identifying processes is called the Odontology Forensic. However, there's an obstacle in the identifying process, that is the long process it takes to analyze with naked eyes. Therefore, bite marks image processing is needed to gain the most accurate gender identity of the suspect or the victim with a more efficient time. The curved parameters of the tooth used in determining the sex on bite marks are interkanin distance, intermolar, canine depth, molar depth.

This final project is aiming to classified bite marks based on its owner's gender so that it can narrow scope of the suspect's search in an act of crime. Writer designed a system to identify genders based on human's bite marks with Adaptive Region Growing models as feature extraction and K-Nearest Neighbor (K-NN) as its classifying method in Matrix Laboratory (MATLAB).

Based on tests that have been conducted on 20 students S1 Telecommunications Engineering 2015 with a range of age 21 to 22 years obtained 240 data, this research resulted in the highest accuracy of 84% with computational time of 42.74 second/image using Threshold 70, value of erosion 0.5, $K = 3$ with cosine formula. Therefore, we can conclude that this system design, with bite marks as its input, can identify genders very well.

Keywords: Adaptive Region Growing, K-Nearest Neighbor, Bite Marks, Odontology Forensic.