

## **ABSTRACT**

*Teeth are the hardest part of the mouth. The function of teeth is chewing and turning of the food. If the health and hygiene of teeth are not considered, the teeth can be attacked by various diseases of tooth, so can also cause disorder in the dental periapical tissue. One type of the periapical disorder is a granuloma.*

*A granuloma is caused by the death of the pulp and the diffusion of bacteria. Granuloma will occur after the pulp dies. Because granuloma is a disorder in the periapical tissue, therefore in the process of diagnosis doctors require a radiograph of the patient's teeth for more analysis. In analyzing the results of the radiograph is needed thoroughness for the resulting diagnostics is accurate.*

*The research will be useful to help explain the results of dental radiographs from patients while diagnosing granuloma. This research uses Watershed segmentation method. This method is good enough for analyzing the result of image segmentation. For analysis, this system uses a Support Vector Machine (SVM). The result of system accuracy obtained by using Watershed method and Support Vector Machine (SVM) classification is 91.66%. With the application of granuloma image on periapical radiograph can help the dentist as an additional diagnosis in determining the action and treatment of patients suffering from granuloma.*

***Keyword : Granuloma, Watershed, Support Vector Machine (SVM).***