

## **ABSTRACT**

Emotion is an expression that results from the face of every human being either neutral, happy, sad, angry, scared, and disgusted that has become part of the facial expressions of human behavior. However, in its application that is used for interaction between humans and computers are still a little interpreted in a human facial expression of emotion in three dimensions model. Therefore, conducted a study in the field of facial emotion process is very complex because it changes dynamically so that the results of the accuracy obtained using a number of methods are used there is still a high enough faults.

Several methods have been used to perform human facial emotion recognition process, such as VSM (Vector Space Model), Cauchy Naive Bayes, and SVM (Support Vector Machine). As for the process of producing emotional response to faces that have been used method is the Fuzzy Logic. This research discussed visualization of facial emotional expressions on the faces of three-dimensional model using SVM (Support Vector Machine) and Fuzzy logic. The study of both methods are able to produce facial emotional expressions of a shooting a picture.

Classification result of SVM (Support Vector Machine) on offline system produces accuracy rate of 90,83% and error 9,17% with time process rate 1,21 second. And while result on online system produces accuracy rate of 85,83% and error 14,17% with time process rate 1,40 second, so as to display facial expressions that contain more than one type of facial emotion.

**Keywords:** Face emotional, three-dimensional model, Fuzzy logic, and SVM (Support Vector Machine)