

## **Abstract**

**Potholes are a problem has always existed. Almost many families have a private vehicles such as car and motorcycle to make trip easier. Now a few traffic accidents are caused by holes in the road. The existence of road defect recognition system will help to distinguish which holes or not that will also be useful for the construction of road defect detection systems. The existence of road defect recognition system will help to distinguish between holes and not holes that will also be useful for the construction of road defect detection systems. An image that has a pothole can be taken with the feature shape of the hole. The method used in this research is Pyramid Histogram of Oriented Gradients (PHOG) to get shape feature from the image. Because this method has been used for emotion recognition and get a higher accuracy. This method is taken because it wants to prove this method has good performance to do an road defect recognition. For classification method, this research using Support Vectore Machine (SVM) has been tuned. Accuracy obtained by 94.45, 94,45%, precision 96,13% and recall 95,77% in polynomial kernel. And then, for True Negative Rate (TNR) 91,55%, Negative Predictive Value (NPV) 90,80%, and F1-Score obtained by 95,95%. If viewed from recall and precission, the class is handled perfectly by the model even though there are still some wrong predicts.**

**Keyword : phog, svm, road defect, recognition, hog.**