# USE OF SURF FEATURE FOR OBJECT RECOGNITION

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## Abstract

The objective of this thesis is to study some algorithms in the object recognition process and implement these algorithms using libraries from OpenCV. The recognition process consists of three stages including detection, feature extraction and classification. Firstly, objects are detected using Haar-like features and Adaboost algorithm. Secondly, we use Bag-of-words model to extract features and generate histogram of the codewords for each image. Finally, objects are classified by K nearest neighbor algorithm. Among the steps of an object recognition process, feature extraction is very important because a high quality of feature extraction plays a crucial role on the results of object recognition. In this thesis we investigate the SURF features for object recognition. Traffic signs are selected in our implementation. In our work, traffic signs have been detected successfully and their features have been extracted to serve as the input of classifier.

*Keywords:* SURF, feature, classifier, recognition