ABSTRACT

Nowadays, oil fuel (BBM) is needed by people of Indonesia. Oil fuel is used in daily needs, such as for vehicle fuel, indutrial fuel, and other. In Indonesia, the price of fuel often rises due to the reason that the goverment want to reduce subsidies. The purpose of these reductions is said that the funds previously used for subsidies can be diverted to other things like education and infrastructure development. This causes a group of people do cheating. They mix one kind of fuel with another one in order to gain maximum profit.

This study discusses how to distinguish a pure oil fuel with a mixed fuel based on its color using block and overlapping feature extraction method in RGB, HSV and YCbCr space which showed in Color Histogram and JST SOM feature classification method.

Result achieved in the process of detecting the type of fuel based on its color using JST SOM with capturing sample image vertically and fixed capturing distance has achieved 88% of accuracy.

Keyword: *Detection of Fuel's Color, Fuel mixing, Color Histogram, Neural Networks Self Organizing Map*