

ABSTRACT

Good access control system must be able to distinguish one person to another. Therefore we need a feature that is able to differentiate between one person to another. One of the unique features of a human is the pattern of finger knuckle back surface. This can occur due to the unique formation of patterns in finger knuckle since humans were born.

This final projects builds a system that is able to recognize finger knuckle image using Fuzzy Local Binary Pattern (FLBP). The system extracts finger knucle image by transform the input variables into fuzzy variables based on a set of fuzzy rule. Then the extracted image are identified using Support Vector Machine (SVM). SVM separates two classes in a vector space by using hyperplane. Hyperplane is determined by maximizing the distance between features on the used dimensions.

Experimental results show that the highest FLBP system performances obtained at sampling points $P = 8$, radius $R = 4$, and $F = 1$ with the accuration system is 97,7273% and the time computational system is 23,03014 second. It can be concluded that this approach is capable to identify the finger knuckles image efficiently and accurately.

Keywords : finger knuckle recognition, fuzzy local binary pattern, support vector machine