Abstract

Signatures are one of the most commonly used authentication tools. Many things in this world are inaugurated using signatures. Everyone has signature characteristics that are quite diverse. The verification of offline signatures may still have many errors because it developed the verification of signatures online by using the dynamic features of the signature. In this research, two schemes are built without the feature selection using Genetic Algorithm and without feature selection. This verification system uses the Support Vector Machine (SVM) algorithm to verify the signature because SVM has been proven in previous research to produce good accuracy. The study is also intended to find important features in a signature of the six groups of features tested. The dataset used is a SVC2004 dataset containing 20 authentic signatures and 20 fake signatures imitated by professionals of 5 users.

The results showed Genetic Algorithm can produce 94.40% and 4.21% better than without the selection of features. Influential feature groups are Geometry and Miscellaneous feature groups because they produce better accuracy than other feature groups.

Keywords: signature verification, Genetic Algorithm, Support Vector Machine(SVM), feature group