Abstract

Diabetes Mellitus (DM) is defined as a disease with multiple etiologies, or a chronic metabolic disorder characterized by high blood sugar levels accompanied by disturbances in carbohydrate, lipid and protein metabolism as a result of insulin deficiency. DM can be suffered by children, especially DM type 1. To detect type-1 DM, a hemoglobin A1c (HbA1c) test is necessary. However, there are several things that can affect the detection of type-1 DM using the hemoglobin A1c (HbA1c) test. Therefore, one alternative is to do diabetes detection by using gene expression data. In this study, the Ensemble Method was used as a feature selection combined with the Gravitational Search Algorithm (GSA) as a classification method on Diabetes Miletus (DM) microarray data. Based on the results obtained the best model is the Random Forest model with an accuracy and an F1 score of 0,79 and 0,87 respectively.

Keywords: ***Diabetes Miletus, microarrray, Gravitational Search Algorithm, Ensemble Method*****.**