Abstract

Cancer is one of the deadliest causes of death in the world. Based on the World Health Organization (WHO), cancer is the second leading cause of death in the world with a total death of 8.8 million in 2015. Therefore, an increase in cancer diagnosis for cancer needs to be done. The technology used to improve the diagnosis of cancer is microarray data. Microarray is a research data that uses multiple gene expression at one time. Microarray data is used for various cancers. Each microarray sample contains DNA or RNA from an individual. The microarray data then represented as a number table form. Microarray data that has been formed as numerical tables then can be classified according to their respective class. The problem currently available is the enormous amount of microarray data features. Therefore, it takes a system that can solve the problem. In this study, the system uses the Deep Belief Network as a classifier and Mutual Information as feature selection. The system can classify microarray dataset with average accuracy 90,84% and average f1-score 89,68%.

Keyword: *Cancer, Microarray, Deep Belief Network, Mutual Information*