Data Preprocessing and Reducing for Microarray Data Exploration and Analysis

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Abstract

The advances known by Microarray technology have provided birth to enormous ameliorations and investigations in different domains, such as medicine, the pharmaceutical, biotechnology, agrochemical and food industries. The exploitation of Microarray data is still complex for many researchers, due to its huge quantity generated by different experiments. The produced Microarray data must be treated in order to get more valuable information, compare data by improving its clear visualization, make further analysis and respond to crucial hypotheses. Many researchers have found out the biological significance of Microarray data as the greatest challenge. This task couldn’t be achieved without preprocessing and taking into consideration biases caused by the presence of variation sources in the Microarray experiment steps. This article will highlight the importance of implementing the preprocessing and the Data mining techniques on Microarray data. It will demonstrate the usefulness of results obtained after these techniques application, and the efficiency of PCA technique for analyzing Microarray data.

References


Index Terms

Computer Science
Information Sciences

Keywords

Microarray data, Preprocessing techniques, Analysis, PCA technique