THE IMPLEMENTATION OF FEATURE EXTRACTION METHOD ON MICROARRAY DATA CLASSIFICATION BASED ON INFORMATION GENE PAIRS

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ABSTRACT

The introduction of DNA microarray technology has made it possible to acquire vast amount of microarray data, raising the issue of how best to extract and select features from this data. There are many former methods that ignore the interrelation of genes, this is inevitable to lose some important information.

Although various methods have been used to extract and select features from microarray data, development of powerful and efficient feature extraction and selection approach to improve the performance of cancer classification remains a significant demand. This final assignment implement a new method for extracting feature from microarray data based on information gene pairs that have significant change in two different tissue samples.

Experimental results on two public microarray data sets demonstrate that feature selected by this method performs well and achieves higher classification. Moreover 100% classification accuracy can be achieved when using lymphoma data set.

Keywords: Microarray data, Feature extraction, Information gene pairs, Cancer classification, Genetic Algorithm
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