

Comparison of Various Classification Techniques Using WEKA for Colon Cancer Detection

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Abstract : Colon cancer causes the deaths of about half a million people every year. The common method of its detection is histopathological tissue analysis, it leads to tiredness and workload to the pathologist. A novel method is proposed that combines both structural and statistical pattern recognition used for the detection of colon cancer. This paper presents a comparison among the different classifiers such as Multilayer Perception (MLP), Sequential Minimal Optimization (SMO), Bayesian Logistic Regression (BLR) and k-star by using classification accuracy and error rate based on the percentage split method. The result shows that the best algorithm in WEKA is MLP classifier with an accuracy of 83.333% and kappa statistics is 0.625. The MLP classifier which has a lower error rate, will be preferred as more powerful classification capability.

Keywords : colon cancer, histopathological image, structural and statistical pattern recognition, multilayer perception

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