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Abstract
The incidence and mortality rate of breast cancer in Taiwanese Women have increased gradually due to the urban life style and westen style food.In the recent 5 years, the incidence of breast cancer in Taiwanese Women became the first in all cancers. The highest perioid of incidence of breast cancer is between 45 to 55 years old. In the early stage of breast cancer, it is almost asymptoatic and keep the patients from medical help.When the breast cancer was diagnosed, many of them aleady have lymph node metastasis. This situation also lifts the recurrent rate.
Due to the progress of information technology and medical information system, hospitals also have accumlated a large amount of data in the database of information systems. Therefore, much useful medical knowledge could be mined from the history data. The prediction of breast cancer relapse is very helpful for post-operative treatment and followup. The statistical methods had been applied to predict breast cancer relapse. However, this study employed data mining techciques, including C4.5 decision tree and SVM, to construct recurrence prediction models of breast cancer. To improve the prediction efficiency, this study also applied committee machine methods, including AdaBoost and Bagging, to increase the relapse prediction accuracy. The empirical results show that AdaBoost mechanism can ehance prognosis accuracy of C4.5 and SVM models on breast cancer relapse.
Keyword：Breast cancer relapse、C4.5 decision tree、Support Vector Machine、Committee Machine
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