عنوان مقاله:

Can Breast Cancer Survival by Risk Factors Machine Learning Models

محل انتشار:

دهمین کنگره بین المللی سرطان پستان (سال: 1393)

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خلاصه مقاله:

Breast cancer is a kind of cancer with high mortality among women. With early diagnosis of breast cancer (up to five years after cell division) survival will increase from 56% to more than 86%. Therefore, an accurate and reliable system is necessary for early diagnosis of benign or malignant tumors. Automatic classification systems as a diagnostic tool can reduce the workload of doctors. Intelligent methods to predict Breast cancer survival which are used in this study consist of Naïve Bayes, Trees Random Forest, 1NN, AdaBoost, SVM, RBF Network and Multilayer Perceptron. In this study 900 patient records are used. These records have been registered at Cancer Registry Organization of Kerman Province, in Iran. For evaluate the proposed models, K-fold cross validation is used. Seven models of machine learning are compared base on specificity, sensitivity and accuracy. The accuracy of the seven models are .95%, .96%, .91%, .94%, .94%, .95% and .95% respectively. Our resultshowed that trees Random Forest model was the best model with the highest level of accuracy. Therefore, Trees Random Forest model is recommended to Breast cancer survival.

کلمات کلیدی:

Breast cancer survival prediction, classification, machine learning models

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