

عنوان مقاله:

Predicting the survival in breast cancer using Hidden Markov Model

محل انتشار:

دهمین کنگره بین المللی سرطان پستان (سال: 1393)

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خلاصه مقاله:

Among the women worldwide breast cancer is one of the widespread killer diseases. Early detection of the disease is important in patient survival. The main objective of this research was to evaluate predictive ability of hidden markov model in prediction of breast cancer survivability. The breast cancer data set used in this investigation were acquired of Health department of Kerman province and includes the information of 900 breast cancer patients, aged 15 to 80 years, and its associated risk factors among patients since 1999 to 2007. Hidden markov model was made based on a set of 675 patients information (75% of data) and that was validate in a test set of 225 patients information (25 % of data). The Area Under the ROC Curve (AUC), sensitivity, specificity and accuracy used as measures of validate of the efficiency of model. The sensitivity, specificity, accuracy and the area under the ROC curve of the hidden markov model was 0.989, 0.99, 0.939 and 0.94, respectively. According to the four evaluation criteria, hidden Markova model .had good performance, therefore hidden markov model and predict the diagnosis of breast cancer is recommended

کلمات کلیدی:

Hidden Markova model (HMM), EM algorithm, Breast cancer, survival

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