Abstract

Medical diagnosis is an important task that needs to be executed accurately and efficiently. Medical domain complexities are represented by multidimensional heterogeneous datasets. Computer aided diagnosis must deal with processing and analyzing high dimensional data. Optimization of features in datasets reduces time and memory complexity of learning algorithms. It is necessary to have a tool that gives relationship between features and eliminate redundant ones. Feature selection or feature extraction reduce dimensions and essentially influence the performance of classifier. Many techniques have been used to determine essential features of medical data. We investigate two feature extraction techniques, Principal component analysis (PCA) and common Factor Analysis (FA) techniques for classification of heart disease. These techniques expose the structure, while maintaining the integrity of the data, thus improving diagnosis performance.

References


Charles X. Ling Jin Huang Harry Zhang, 2003. AUC: a Statistically Consistent and more Discriminating Measure than Accuracy. 18th International Conference On Artificial Intelligence.


Dimensionality Reduction Techniques for Improved Diagnosis of Heart Disease


Index Terms

Computer Science
Pattern Recognition

Keywords
Dimensionality reduction PCA FA neural networks AUC heart disease