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Title (English)

Performance estimation of multivariate classification of blood samples for cancer detection

Title (Swedish)

Prestandautvärdering vid multivariat klassning av blodprover för cancerdetektion

Abstract

Disease detection methods involving multivariate classification need reliable performance estimates to be practically useful. A new method for making such estimates is presented here based on splitting the data in several bags and estimating the error rate by training many classifiers on new data drawn from kernel density estimations of the unknown underlying distribution in each bag. This gives an estimation of the entire prior function of the classification problem together with an uncertainty measure which is a great improvement from the standard methods of today which only supply its mean and no uncertainty measure.

Keywords

Classification performance, error rate, kernel estimation, cancer detection, in solution PLA

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