

HIGHLY ROBUST STATISTICAL METHODS IN MEDICAL IMAGE ANALYSIS

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Abstract

Standard multivariate statistical methods in medical applications are too sensitive to the assumption of multivariate normality and the presence of outliers in the data. This paper is devoted to robust statistical methods. In the context of medical image analysis they allow to solve the tasks of face detection and face recognition in a database of images. The results of the robust approaches in image analysis turn out to outperform those obtained with standard methods. Robust methods also have desirable properties appealing for practical applications, including dimension reduction and clear interpretability.

Keywords: robust statistics, classification, faces, robust image analysis, faces, forensic science