



ROBUST LINEAR CLASSIFIER FOR UNEQUAL COST RATIOS OF MISCLASSIFICATION

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Abstract

This paper focuses on the robust classification procedures when the assumption of equal cost of misclassification is violated. A normal distribution based data set is generated using the Statistical Analysis System (SAS) version 9.1. Using Barlett's approximation to chi-square, the data set was found to be homogenous and was subjected to three linear classifiers namely: Maximum Likelihood Discriminant Function (MLDF), Fisher's linear Discriminant Function (FLDF) and Distance Based Discriminant Function (DBDF). To Judge the performances of these procedures, the Apparent Error Rates (APER) for each procedure is obtained for different cost ratios 1:1, 1:2, 1:3, 1:4 and 1:5. The results show that the three procedures are insensitive to cost ratio exceeding ratio 1:2 and that MLDF was observed as robust discriminant function among classification functions considered.

Keywords and phrases: APER, DBDF, FLDF, MLDF.

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