

Discriminant Analysis for Multi-level Multivariate Data

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Abstract

Although devised in 1936 by Fisher [1], discriminant analysis is still rapidly evolving, as the complexity of contemporary data sets grows exponentially. Our classification rules explore these complexities by modeling various correlations. Moreover, our classification rules are suitable to data sets where the number of response variables is comparable or larger than the number of observations. We assume that the multi-level m -variate observations have a structured covariance matrix and a Kronecker product structure on the mean vector ([2], [3]). The proposed classification rules are demonstrated on a real data set which illustrates the benefits of these new methods over the traditional ones.

Keywords

Blocked compound symmetry covariance matrix, jointly equicorrelated covariance matrix, structured mean vector.

References

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