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A theorem on the uncorrelated optimal discriminant vectors. (English) Zbl 0999.68189
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Summary: This paper proposes a theorem on the Uncorrelated Optimal Discriminant Vectors (UODVs). It is proved that the classical optimal discriminant vectors are equivalent to UODV, which can be used to extract $(L - 1)$ uncorrelated discriminant features for L -class problems without losing any discriminant information in the meaning of Fisher discriminant criterion function. Experiments on Concordia University CENPARMI handwritten numeral database indicate that UODVs are much more powerful than the Foley-Sammon optimal discriminant vectors. It is believed that when the number of training samples is large, the conjugate orthogonal set of discriminant vectors can be much more powerful than the orthogonal set of discriminant vectors.

MSC:

68T10 Pattern recognition, speech recognition

Cited in **15** Documents

Keywords:

[Uncorrelated Optimal Discriminant Vectors](#)

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