

Decomposition of High Dimensional Pattern Spaces for Hierarchical Classification.

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Abstract: In this paper we present a novel approach to decomposing high dimensional spaces using a multiobjective genetic algorithm for identifying (near-)optimal subspaces for hierarchical classification. This strategy of pre-processing the data and explicitly optimising the partitions for subsequent mapping onto a hierarchical classifier is found to both reduce the learning complexity and the classification time with no degradation in overall classification error rate. Results of partitioning pattern spaces are presented and compared with various algorithms.

Keywords:

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