SUPPORT VECTOR MACHINE (SVM) CLASSIFICATION THROUGH GEOMETRY (WedPmOR11)

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Abstract :

Support Vector Machines is a very attractive and useful tool for classification and regression; however, since they rely on subtle and complex algebraic notions of optimization theory, lose their elegance and simplicity when implementation is concerned. It has been shown that the SVM solution, for the case of separate classes, corresponds to the minimum distance between the respective convex hulls. For the non−separable case, this is also true, but for the Reduced Convex Hulls (RCH). In this paper a new geometric algorithm is presented, applied and compared with other non−geometric algorithms for the non−separable case.

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