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Random Subspace Ensemble of CMAC Classifiers

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Abstract : The rapid growth of domains that have data with a large number of features, while the number of samples is limited has caused difficulty in constructing strong classifiers. To reduce the dimensionality of the feature space becomes an essential step in classification task. Random subspace method (or attribute bagging) is an ensemble classifier that consists of several classifiers that each base learner in ensemble has subset of features. In the present paper, we introduce Random Subspace Ensemble of CMAC neural network (RSE-CMAC), each of which has training with subset of features. Then we use this model for classification task. For evaluation performance of our model, we compare it with bagging algorithm on 36 UCI datasets. The results reveal that the new model has better performance.

Keywords : classification, random subspace, ensemble, CMAC neural network
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