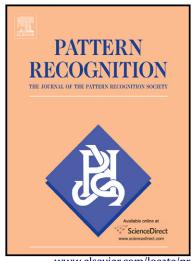
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Query-expanded collaborative representation based classification with class-specific prototypes for object recognition

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Abstract

Linear representation based classifiers (LinearRCs) assume that a query image can be represented as a linear combination of dictionary atoms or prototypes with various priors (e.g., sparsity), which have achieved impressive results in face recognition. Recently, a few attempts have been made to deal with more general cases (e.g., multi-view or multi-pose objects, more generic objects, etc.) but with additional requirements. In this paper, we present a query-expanded collaborative representation based classifier with class-specific prototypes (QCRC_CP) from the general perspective. First, we expand a single query in a multi-resolution way to cover rich variations of object appearances, thereby generating a query set. We then condense the gallery images to a small amount of prototypical images by maximizing canonical correlation in a class-specific way, in which the implicit query-

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