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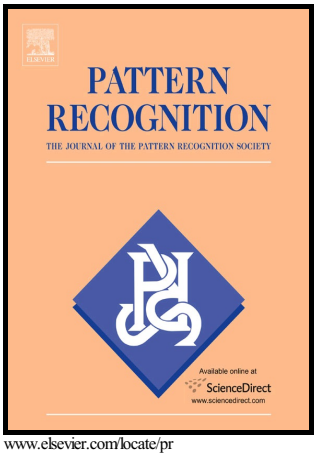

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Diversity Induced Matrix Decomposition Model for Salient Object Detection

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Abstract

Over the past decade, salient object detection has attracted a lot of interests in computer vision. Although many models have been proposed to detect the salient object in an arbitrary image, this problem is still plagued with complex backgrounds and scattered objects. To address this issue, in this paper, we explore the information in cross features via a diversity-induced multi-view regularization under the Hilbert-Schmidt Independence Criterion (HSIC). Based on the diversity term, a new matrix decomposition based model is proposed for salient object detection. Furthermore, $S_{1/2}$ regularizer is introduced to constrain the background part. This regularizer will make the background much cleaner in the saliency map. A group sparsity induced norm is imposed on the salient part in order to involve the potential spatial relationships of image patches. Our method is solved through an augmented Lagrange multipliers method, and high-level priors are also integrated to boost the performance. Experiments on the four widely used datasets show that our method outperforms the state-of-the-art models.

Keywords: Saliency detection, Diversity induced term, Matrix decompostion,

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