

Accepted Manuscript

Efficient image signatures and similarities using tensor products of local descriptors

David Picard, Philippe-Henri Gosselin

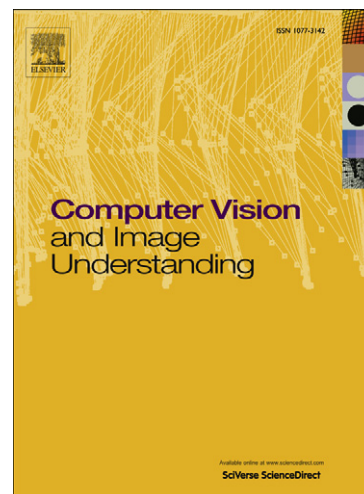
PII: S1077-3142(13)00033-7
DOI: <http://dx.doi.org/10.1016/j.cviu.2013.02.004>
Reference: YCVIU 1966

To appear in: *Computer Vision and Image Understanding*

Received Date: 20 November 2011
Accepted Date: 14 February 2013

Please cite this article as: D. Picard, P-H. Gosselin, Efficient image signatures and similarities using tensor products of local descriptors, *Computer Vision and Image Understanding* (2013), doi: <http://dx.doi.org/10.1016/j.cviu.2013.02.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Efficient image signatures and similarities using tensor products of local descriptors

David Picard, Philippe-Henri Gosselin

ETIS, CNRS ENSEA Université Cergy-Pontoise F-95000 Cergy-Pontoise

Abstract

In this paper, we introduce a novel image signature effective in both image retrieval and image classification. Our approach is based on the aggregation of tensor products of discriminant local features, named VLAT (vector of locally aggregated tensors). We also introduce techniques for the packing and the fast comparison of VLATs. We present connections between VLAT and methods like kernel on bags and Fisher vectors. Finally, we show the ability of our method to be effective for two different retrieval problems, thanks to experiments carried out on similarity search and classification datasets.

Keywords: Image retrieval, Image indexing, Image Similarity, Feature Vector

1. Introduction

Content Based Image Retrieval (CBIR) has been a main topic of interest at the the crossroad of many research communities for the last 20 years. These communities include (but are not limited to) Image Processing,

Email addresses: picard@ensea.fr (David Picard), gosselin@ensea.fr (Philippe-Henri Gosselin)

Download English Version:

<https://daneshyari.com/en/article/10359177>

Download Persian Version:

<https://daneshyari.com/article/10359177>

[Daneshyari.com](https://daneshyari.com)