

## Accepted Manuscript

Title: Automatic Retrieval of Shoeprint Images Using Blocked Sparse Representation

Authors: Sayyad Alizadeh, Cemal Kose



PII: S0379-0738(17)30207-4  
DOI: <http://dx.doi.org/doi:10.1016/j.forsciint.2017.05.025>  
Reference: FSI 8863

To appear in: *FSI*

Received date: 25-2-2017  
Revised date: 29-5-2017  
Accepted date: 31-5-2017

Please cite this article as: Sayyad Alizadeh, Cemal Kose, Automatic Retrieval of Shoeprint Images Using Blocked Sparse Representation, Forensic Science International <http://dx.doi.org/10.1016/j.forsciint.2017.05.025>

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.

## Automatic Retrieval of Shoeprint Images Using Blocked Sparse Representation

Sayyad ALIZADEH<sup>1</sup>, Cemal KOSE<sup>2</sup>

<sup>1</sup> *Department of Computer Engineering, Faculty of Engineering, Karadeniz Technical University, 61080 Trabzon, Turkey*

<sup>2</sup> *Department of Computer Engineering, Faculty of Engineering, Karadeniz Technical University, 61080 Trabzon, Turkey*

### Corresponding Author:

Sayyad ALIZADEH

E-mail: alizadeh@ktu.edu.tr

Tel: +905075299922

The total number of words of the manuscript, including entire text from title page to figure legends: **8828**

The number of words of the abstract: **326**

The number of figures: **8**

The number of tables: **4**

### HIGHLIGHTS FOR SUBMISSION OF MANUSCRIPT

- The sparse representation was used for the first time to retrieval shoeprints.
- Sparse representation method is used to describe shoeprint patterns.
- 950 shoeprint image similar to the crime scene images.

### Abstract

Shoe marks are regarded as remarkable clues which can be usually detected in crime scenes where forensic experts use them for investigating crimes and identifying the criminals. Hence, developing a robust method for matching shoeprints with one another is of critical significance which can be used for recognizing criminals. In this paper, a promising method is proposed for retrieving shoe marks by means of developing *blocking sparse representation* technique. In the proposed method, the queried image was divided into two blocks. Then, two sparse representations are extracted for each queried image through approximate  $\ell_1$  minimizing method. Also, the referenced database is

Download English Version:

<https://daneshyari.com/en/article/4760255>

Download Persian Version:

<https://daneshyari.com/article/4760255>

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