Contour and Texture-Based Approaches for Dental Radiographic and Photographic Images in Forensic Identification

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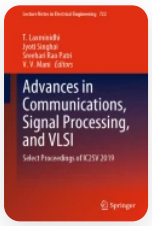

Advances in Communications, Signal Processing, and VLSI

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Abstract

In forensic odontology, the challenging task is to identity the decomposed and severely burnt corpse of individual person. In such a situation, dental records have been used as a prime tool for forensic identification. The main goal of this work, by comparing the analysis of contour shape extraction and texture feature extraction for both radiographic and photographic images, is used to identify a person. In this work, contourlet transform is used as a contour shape extraction; Local Binary Pattern (LBP), Center-Symmetric

Local Binary Pattern (CS-LBP) are used as texture features. Both AM and PM images are used to identify the person more accurately by comparing different matching algorithms. In order to salvage better matching performance, Cumulative Matching Curve (CMC) is used for both radiographic and photographic images. Better matching is observed for radiographic images than photographic images by Hit rate performance metrics.

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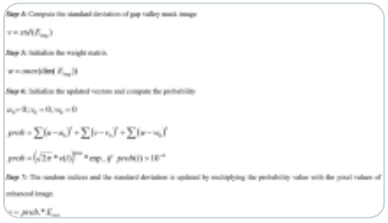

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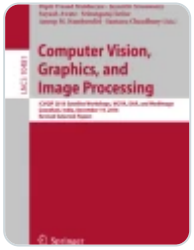

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