IMPACT: International Journal of Research in Engineering & Technology
ISSN(P): 2347-4599; ISSN(E): 2321-8843
Vol. 6, Issue 6, Jun 2018, 51-60

TEETH CLASSIFICATION IN DENTAL IMAGES USING SUPPORT VECTOR MACHINE

Vijayakumari Pushparaj

Department of ECE, MepcoSchlenk Engineering College, Virudhunagar, Tamil Nadu, India

Received: 27 May 2018 **Accepted:** 18 May 2018 **Published:** 30 Jun 2018

ABSTRACT

In the present day world, individual identification with some reliable means is emerging as a significant state of affairs. Since teeth pattern is unique for the individual human being, it can be treated as a suitable biometric means. It is playing the major role in mass disaster identification and individual identity. In order to ease the process of human identification using dental images, teeth classification is desired as an imperative process. This paper introduces teeth classification using linear and multi-class support vector machine. Teeth information can be acquired by either radiographic or photographic means. The algorithm is implemented by performing preprocessing initially, then teeth separation followed by feature extraction and classification. The accuracy of linear support vector machine yields 91% for radiographs and 95% for photographs in terms of number of teeth tested and correctly classified. Multi class support vector machine improves the performance of classification with the inclusion of canine teeth in radiographs, achieved an accuracy of 90.5%, which is comparable with the existing algorithms.

KEYWORDS: *Teeth Classification, Signature, Geometric Features, Confusion Matrix, Photographs, Radiographs*