

## **TWO DEGREE GRAYSCALE DIFFERENTIAL METHOD FOR TEETH IMAGE RECOGNITION**

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### **ABSTRACT**

This paper proposes a new method to find a specific tooth from the digital picture of multiple teeth. The two degree grayscale differential method can significantly simplify the pattern recognition process for teeth. Compared to the popular recognition method like PCA and LDA, this method is a lot more simple, runs faster and the identification rate is better. The new approach will reduce the traditional reliance on X-ray image to get information and make dental decision. The new approach is tested and will be used in the dental decision making software to do preliminary dental advising for potential patients. An image of a molar is used as an example here; all other teeth can be processed the same way.

**KEY WORDS** : Image Recognition, teeth image processing, teeth recognition, pattern recognition, Matlab.