

## عنوان مقاله:

Development of a Novel Method for Predicting Root Canals Working Length by Analyzing Dental Radiographs

## محل انتشار:

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## خلاصه مقاله:

Accurate working length measurement plays a key role in the success of root canal treatment. In this paper, a novel system is proposed for predicting root canals working length from dental radiographs. The system uses image processing techniques to detect a tooth midline and estimate its length in pixels. The estimated length is then used to predict the working length (in mm) by a weighted linear regression model. The system's performance was evaluated using a database of single- and double-rooted teeth. The mean working length prediction error was ۷.۳% for single-rooted teeth, and ۶.۷% and ۵.۶% for the mesio-buccal and the distal canals of double-rooted teeth, respectively. The system was also successfully used to predict the working length of double-rooted teeth's mesio-lingual canal, which is invisible in the radiographs. The mean prediction error was ۶.۹% in this case. The accuracy of these working length predictions indicates that the proposed solution could potentially be used to develop practically efficient working length measurement tools that can overcome some problems of the traditional radiographical measurements such as time-consuming repeated measurements and subjective manual adjustments

## کلمات کلیدی:

working length prediction, root canal, dental radiographs, image processing, weighted linear re-gression

## لینک ثابت مقاله در پایگاه سیویلیکا:

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