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# Comprovante de Envio de Trabalho

Seu trabalho foi enviado com sucesso.

**Código** 3368493

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**Tipo** Fórum Científico

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**Título** DETECTION OF MANDIBULAR CANAL AND ANTERIOR LOOP BY DEEP LEARNING

**Resumo** Aim To assess whether a dedicated artificial intelligence (AI) driven tool may accurately and timely detect and segment the mandibular canal (MC) and its anterior loop (AL).  
Material and Methods For training the AI network, 219 cone beam computed tomography scans with and without AL were used. Following automated segmentation of the MC, two experts assessed the segmentation quality and adjusted it when judged needed. Testing of the AI-driven segmentation of the MC with and without AL was performed. The MC was divided into three sections: anterior, middle, and posterior, with notifications on the time spent to refine the AI-driven segmentation in each section. Subsequently, accuracy metrics were calculated. Results No significant differences were detected for AI metrics of MC segmentation with versus without AL (IoU:0.659 vs 0.654; DSC: 0.792 vs 0.789; Precision: 0.677 vs 0.668; Recall: 0.961 vs 0.970; Accuracy: 0.998 vs 0.997; HD: 0.858 vs 0.649). Refinement time was also not significantly different for MC segmentation with and without AL, however, MC refinement was significantly longer in the posterior section as compared to the anterior and middle sections. Conclusion The AI-driven tool provides accurate segmentation of the mandibular canal, even with anatomical variations such as an anterior loop.

**Área Temática** Radiologia e Patologia Oral e Maxilofacia

**Resumo em Word** 121263138481593642463326353026347017696

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