International Conference on 2025

21st - 22nd March 2025

Systematic Literature Review: Classification of Skeletal Malocclusion Using Deep Learning A Review

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Abstract:

Skeletal malocclusion is a medical condition in which there is a misalignment between teeth that can be caused by genetic and bad habits. The untreated condition can lead to a variety of functional, psychological, and long-term effects on health. Early diagnoses are essential to prevent complications and improve the patient's quality of life. This study aims to systematically review studies related to the classification of skeletal malocclusion from traditional to deep learning methods. Each class of skeletal malocclusion requires a different way of handling. Traditional classifications, used for classifying three malocclusion classes. Recent research tries to use deep for skeletal malocclusion classification. This research uses the PRISMA method with the keywords "skeletal malocclusion classification" and "deep learning", this study is searched into four databases. The analysed literature must be published between 2019-2024, discuss classification of skeletal malocclusion, and be free access. The results of this analysis will be used to answer three research questions. This research has analysed 28 articles, it was found that before the use of deep learning, classification was done manually with the Angle's classification technique but have many drawbacks. Previous research has shown that deep learning techniques can significantly improve medical analysis capabilities in accuracy, speed, and can provide a second opinion for medical decision-making. This research concludes that deep learning has significant impact for the classification of skeletal malocclusion. With deep learning, classification can be done faster and more accurately, as well as support clinical medical decision-making.

Proceedings of International Conference - 2025