

## عنوان مقاله:

Artificial Intelligence Approach in Biomechanics of Gait and Sport: A Systematic Literature Review

## محل انتشار:

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## خلاصه مقاله:

Background: Artificial neural network helps humans in a wide range of activities, such as sports. Objective: This paper aims to investigate the effect of artificial intelligence on decision-making related to human gait and sports biomechanics, using computer-based software, and to investigate the impact of artificial intelligence on individuals' biomechanics during gait and sports performance. Material and Methods: This review was conducted in compliance with the PRISMA guidelines. Abstracts and citations were identified through a search based on Science Direct, Google Scholar, PubMed, Elsevier, Springer Link, Web of Science, and Scopus search engines from ۱۹۹۵ up to ۲۰۲۳ to obtain relevant literature about the impact of artificial intelligence on biomechanics. A total of ۱۰۰۰ articles were found related to biomechanical characteristics of gait and sport and ۲۶ articles were directly pertinent to the subject. Results: The extent of the application of artificial intelligence in sports biomechanics in various fields. In addition, various variables in the fields of kinematics, kinetics, and the field of time can be investigated based on artificial intelligence. Conventional computational techniques are limited by the inability to process data in its raw form. Artificial Intelligence (AI) and Machine Learning (ML) techniques can handle complex and high-dimensional data. Conclusion: The utilization of specialized systems and neural networks in gait analysis has shown great potential in sports performance analysis. Integrating AI into this field would be a significant advancement in sport biomechanics. Coaches and athletes .can develop more precise training regimens with specialized performance prediction models

## کلمات کلیدی:

Artificial Intelligence, biomechanics, Machine Learning, Performance, Sports

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