ABSTRACT

In the world of sports, the use of technology is growing with the aim of improving athlete performance and facilitating training. One of the developing technologies in sports is the use of pose detection systems on videos. This study aims to design a walkingand running pose detection system as introduction to sports movements in video using MediaPipe. The methos used is image processing using the MediaPipe library. Image data is in the form of video and is processed using sketonization and pose estimation to detect human poses that are walking or running.

Pose detection systems in physical activity have been the subject of significant research in the field of computer vision. This research introduces a pose detection system that aims to recognize the movement of walking and running sports in videos using MediaPipe, a framework that enables real-time visual analysis.

The proposed method utilizes visual sensing technology to track the position and orientation of various key points on the human body during exercise movements. By involving a previously trained Machine Learning model, this system is able to recognize walking poses which can be detected by the system with a success percentage of 100%, namely 16 walking movements taken from a total of 16 walking movements from 3 datasets. Running poses can be detected by the system with a success percentage of 100%, namely 16 running movements taken from a total of 16 running movements from 3 datasets. typical patterns associated with walking and running movements. Detection is performed on each video frame sequentially, allowing the system to provide pose estimation and sports movement identification in real time.

Keywords: *pose estimation, sport movement classification, mediapipe, image processing, movement analysis*