

Fitness Action Recognition Based on MediaPipe

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Abstract : MediaPipe is an open-source machine learning computer vision framework that can be ported into a multi-platform environment, which makes it easier to use it to recognize the human activity. Based on this framework, many human recognition systems have been created, but the fundamental issue is the recognition of human behavior and posture. In this paper, two methods are proposed to recognize human gestures based on MediaPipe, the first one uses the Adaptive Boosting algorithm to recognize a series of fitness gestures, and the second one uses the Fast Dynamic Time Warping algorithm to recognize 413 continuous fitness actions. These two methods are also applicable to any human posture movement recognition.

Keywords : computer vision, MediaPipe, adaptive boosting, fast dynamic time warping

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