

Sport Movement Evaluation System

Background

To further improve in modern sports, it is crucial to evaluate the movement of the players in various situations, including when coaching skills and strategies and when judging performances. However, these evaluations currently rely solely on experiences and senses by coaches and referees and there has not been an objective way to evaluate movement.

Technology Overview

Nagoya University researchers have invented a system that can be applied to evaluate movements in various sports by using a support vector machine and deep learning through a convolutional neural network combining spatial and temporal information.

By using this system, for example, we can recognize on- and off-ball screen plays in basketball games automatically by using the moving distance of the players, geometric information, and the distance among the players, the ring, and the ball.

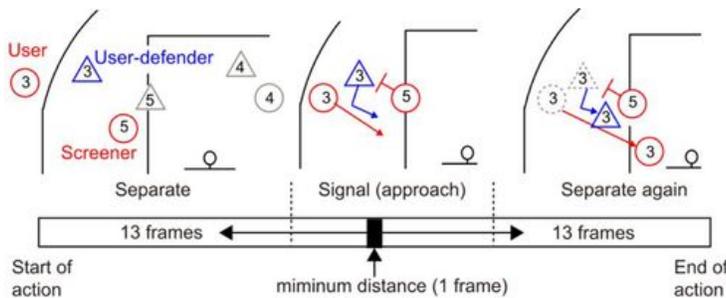


Figure 1 Signal, action and segmentation (total 27 frames)

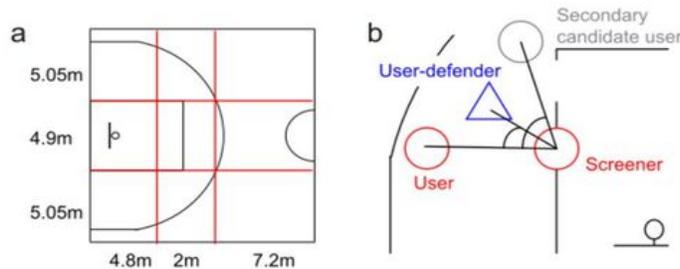


Figure 2 (a) Categorization of screen area; (b) three-player angles

Further Details

Team play without the ball: automatically recognizing multiple off-ball screens in various locations; MIT Sloan Sports Analytics Conference; Paper ID 1490

Seeking: Licensing

IP Status: Patent application submitted

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