

## Sports Tech Media.

## AI computer vision enhancing integrity and participant numbers in junior sport: October 2019.

Poor sportsmanship in junior sport causes many "to leave the game for other activities in which they don't need to worry about cheating, or as tennis players call it, "getting hooked." The absence of refereeing puts the onus on young athletes, with hopes of greatness and often intense parents, to accurately and honestly judge whether their opponent's fast-moving ball is in or out, all while operating under the fog of competition.

Whilst in many territories, junior sport remains synonymous with fair play and good conduct, observational studies from several leading sports federations show that in the US, a sizeable proportion of players do in fact quit due to the high perceived prevalence of cheating in certain sports. It is therefore important that sport recognises this problem in order to expand popularity and avoid young people being lost to the sport.

Al driven Video Assistant Referee (VAR) technology used in professional football and in basketball such as the NBA Replay Center can be used to create sustainable conditions for fair play. The flow works like this- a player challenges a call, the roving or virtual umpire comes to the court and reviews the line call frame by frame on a tablet device, and then the roving official either confirms the call (confirmed call or inconclusive) or overrules it (the call was incorrect).

Fair play pilot trials have been done, alongside the ITA and college tennis and anecdotal evidence showed an increase in trust between the players, and that generally the overall sportsmanship improved greatly. The average number of challenges per match shows just how significant the increase in trust was- although players had the ability to challenge 6+ calls in a two set match and 9+ calls in a three set match (they keep the challenge if it's correct), the average came to just 1 challenge per entire match. In other words, just because the challenge system was there and the match was being recorded, the players trusted that their opponent would make a fair call, and they used the challenge system judiciously.

Moreover, the addition of AI and connected camera sports video technology to schools and athletic facilities and sports communities allows them benefit from video and performance analysis tools, and for family and remote communities to follow along through automated broadcast production capabilities.