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CricketEye: A Deep Learning Approach for Automated Umpiring in Grassroots Cricket

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ABSTRACT

Grassroots cricket lacks accurate umpiring due to human errors and the high cost of advanced technology. Existing solutions like Hawk-Eye are expensive and require specialized hardware, making them inaccessible. Cricket Eye offers an affordable AI-powered system for real-time no ball, wide ball, stumping, and LBW detection, ensuring fair play without costly infrastructure. Cricket Eye aims to provide accurate, affordable, and real-time AI-powered umpiring for grassroots cricket. It eliminates human errors in key decisions without expensive hardware, ensuring fair play and easy adoption in local tournaments. CricketEye is an AI-powered application designed to revolutionize street cricket by providing advanced umpiring assistance through computer vision and deep learning techniques. Our system utilizes pose estimation and object detection models to analyze key in-game events, including LBW decisions, wide ball detection, no-ball identification, and stump assessments. By leveraging both first umpire and third umpire perspectives, CricketEye ensures more accurate and fair decision-making in cricket matches. The primary focus of our application is street cricket, where the absence of professional umpiring often leads to disputes. Addressing this challenge, CricketEye brings cutting-edge AI-driven analysis to grassroots cricket, enhancing the playing experience and fostering a fairer, more engaging environment for players.

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