

Virtual Spy (Automating the Role of Third Umpire in the Game of Gully Cricket)

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Abstract: *A fair decision is important in any game to give justice to the game. Any wrong decision due to a person's misunderstanding can be caused by the outcome of the game. Computer vision and image processing techniques have been cited in book reviews that have used multiple cameras to display. This paper focuses on a system that helps the umpire to make decisions such as no ball, Running, out, etc. with the help of a good quality smartphone camera. The Decision Review System (DRS) aims to provide decisions such as run-out and stump-out. Tkinter is used to develop the GUI of DRS. Object classification and object recognition is implemented using Histogram of Gradients (HOG) and Support Vector Machine (SVM). To detect the cricket ball from the video we optimized and used frame subtraction, contour detection and minimum enclosing circle algorithms using OpenCV library. Linear regression and quadratic regression are used to track and predict the motion of the ball from video source. VPython is used for the visual representation..*

Keywords: Virtual Spy

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