

ABSTRACT

A SYSTEM FOR AUTOMATICALLY DETECTING NO BALL IN CRICKET THROUGH MACHINE LEARNING TECHNIQUES

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A system for automatically detecting No-Ball through artificial intelligence and machine learning techniques comprising: a data stream module for providing raw data or sequence of frames from a live broadcast data or a recorded video file; a line detection module for detecting the lines of popping-crease and determining the popping crease on the frame; a delivery detection module for
10 detecting every delivery of ball by a binary action detection module; a Bowler detection Module for detecting the bowler by applying a deep neural network model comprising: an open computer version pose estimation model that detects the body keypoints for every person in an image and passes to a Long Short-Term Memory (LSTM) model; a front foot landing detection module for detecting bowler's front foot, heel landing moment; and a No-Ball call system module comprises
15 a standard module that reads the data of a source and a tracker module to track ball-by-ball data and provide the metadata to the event analyzer to analyse the events and detect the bowling action, a notification message module to send a message using regular widely used massaging applications and an end of session module to report the summary of the session and notifying the Umpire regarding count of no-balls and their corresponding Ball-by-Ball information.

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(Figure 5)