Player Detection and Classification

AI:DSE 313

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1 Introduction

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2 Motivation

Deep Learning and computer vision are the becoming one of the most popular fields of Artificial intelligence.

3 Research

For this project we did research on image classification and object detection techniques. We..

4 Problem Definition

The main goal of the research project is to develop a robust player tracking model, which can track the players in spacial as well as temporal dimension. With this model we will be able to visualize the players movement throughout the game, gaining insights into the dynamics of the game as well as the player itself. We will mostly be working on badminton for this project. Complimentary to that we are developing a game classification model, which can detect the game they are playing. With help of these two models we can segment the court and the players. This will help us visualize the game mechanics and can further lead to real-time 3d motion tracking of the players.

4.1 Contributions

5 Objectives

- Make a robust model for detection and tracking of players.

- Make a Image classification model for classification of games according to courts.
- Make a website to display the player data.
- real time 3d motion tracking of players, if possible.

6 Methodology

From the research that we have already done, it's very clear that speed and accuracy is very important so, for this project we will be using YOLO as our backend for player detection and on top that we will have a player tracking algorithm, which tracks players according to player-id in spacial and temporal dimension. And for our game classification model, we'll be using Deep Learning at its core. Then we will have a website where the player data is available after processing.

7 Roles

Name :
Roll.No:
Dept:
Role: