Coming to problem definition, we aim to provide a lightweight, robust, and accurate model that can detect and track players on the badminton court, giving us information such as hits, nonhits, occupancy, player team, etc. We aim to implement this model on a raspberry pi on the court itself. Which will take the live feed from the cameras and extract the valuable information, then host that data to a website. This data will be a valuable asset for the coaches and players to see and improve their performance.

Onto Contributions. For this project, we are working with fields of AI and IoT. We hope our model will see an improvement in the detection, tracking of the players. We are also developing a game classification model for detecting the game/sport played by the player from the footage. We expect that our models will contribute toward other developments for AI in the sports world. In the future, we hope to expand the setup to work with any given sport, i.e., it should extract valuable information such as hit/nonhit, player team, occupancy, etc., from any game/sport. We are also trying to develop a crowd and fight detection model, which can detect and predict the fights on the court.

Next, the main objective of this project is to develop a robust, lightweight, and accurate model for extracting the player and game information from the live footage. Then we aim to build a game classification model for classifying games/sports. Then we will develop a website to host the extracted data, which will be available for everyone. Our other Complimentary objectives include creating a crowd and fight detection and prediction model, which can detect fights and gatherings on the court and inform the relevant authorities. We also hope to implement a 3d motion data capture model which can retarget tShe 3d tracking data of the player from the live footage to a 3d model.