

Badminton and Tennis



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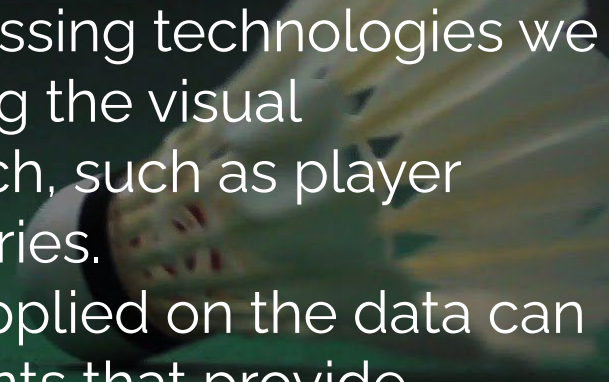
Problem Statement

Personalized training recommendation to improve the overall performance of badminton players by analyzing playing style and techniques.



Idea

Using deep learning and video processing technologies we can extract valuable data by analyzing the visual information captured during the match, such as player movements and ball/shuttle trajectories. Machine learning algorithms when applied on the data can identify and extract relevant data points that provide insights into the game.



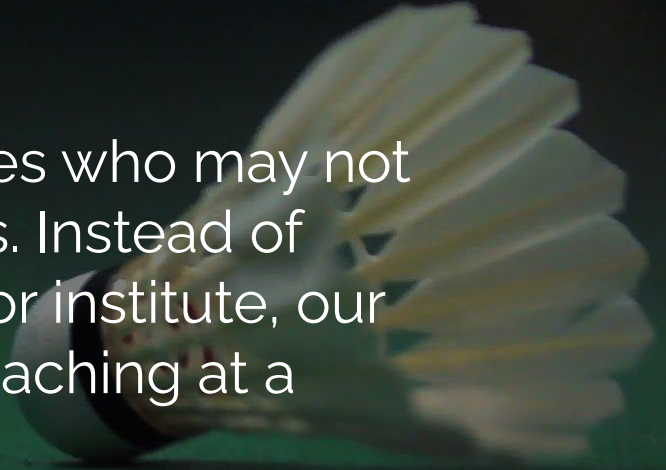
Prediction of future player shots

It is important to predict the shots by the opponent to improve your way to react to it.
Since the shots are played really fast we can use technology to help with it.



How is it different?

We prioritize supporting families who may not have strong financial resources. Instead of requiring payment to a coach or institute, our solution offers personalized coaching at a significantly reduced cost.



Tech Stack

- **TrackNet:** A deep learning network, called TrackNet, that can locate high-speed and tiny objects from ordinary broadcast video.
- **YOLOv7 and OpenPose:** Packages that are fine-tuned to segment players and detect the skeletons of players
- **Dataset(Video Processing):** The videos of top-rank professional badminton competitions, that are available on public domain such as All England Open Badminton Championships on YouTube, are the subjects to be analyzed.
- **Libraries and Modules:** OpenCV, Pillow, MediaPipe, NumPy, ImageMagik, etc.

