

Player Re-ID Report

🔍 Methodology

- Used YOLOv11 to detect players, referees, and the ball.
- Extracted player appearance features using CLIP (ViT-B/32).
- Re-identified players using cosine similarity with memory of previous embeddings.

🛠️ Techniques Tried

- ❌ Color histograms: Failed with similar jerseys.
- ✅ CLIP embeddings: Successfully re-identified players after they left and re-entered.

🚧 Challenges

- Players with similar appearance sometimes confused.
- Re-ID fails if detection is poor (blurred or occluded).
- CLIP model is slow on CPU.

📌 What's Missing

- Temporal smoothing or tracking algorithms (e.g., DeepSORT).
- Optimization for real-time performance (e.g., batching, model quantization).