Sport Analytics: Tennis

Authors:
Davide Ettori
Francesco Santambrogio
Antonio Marusic

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Place:
University of Illinois at Chicago

1
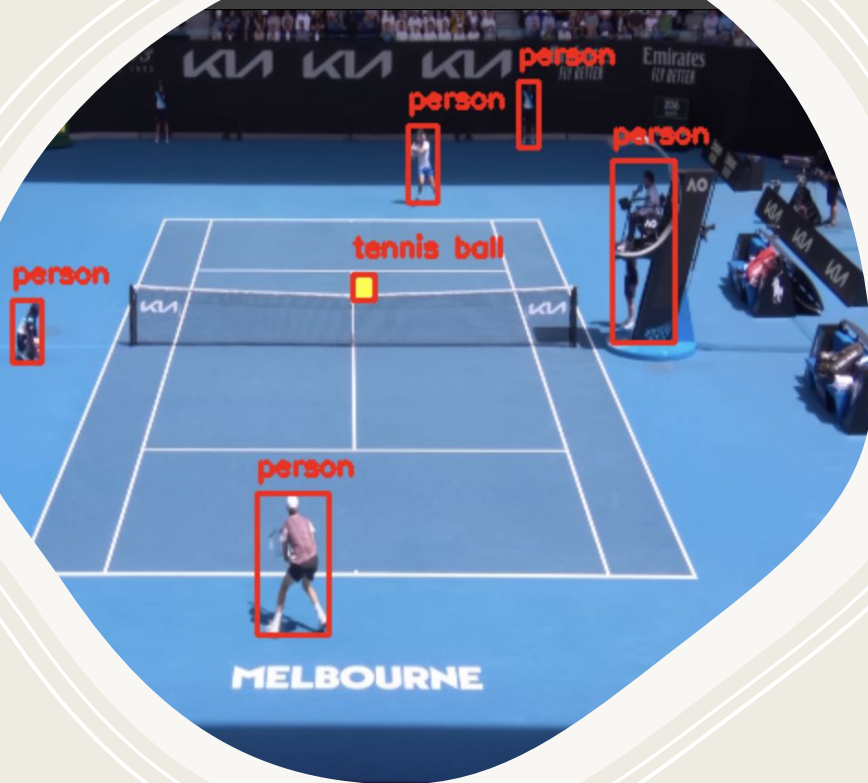
Motivation:
Improve Performance with Data

Problem:

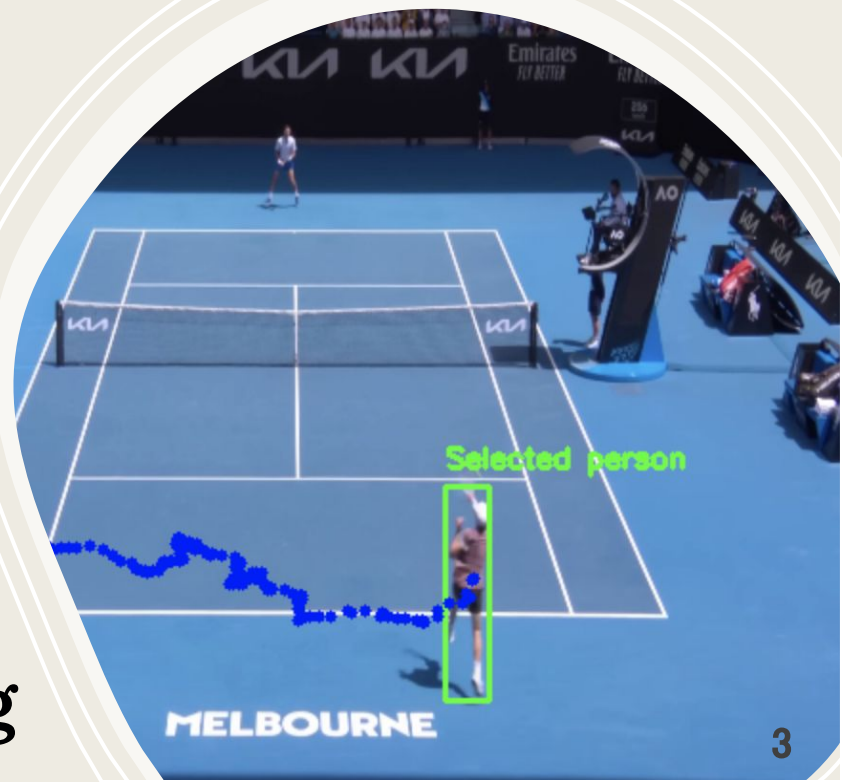Scalability and Precision

Solution:

Computer Vision approaches

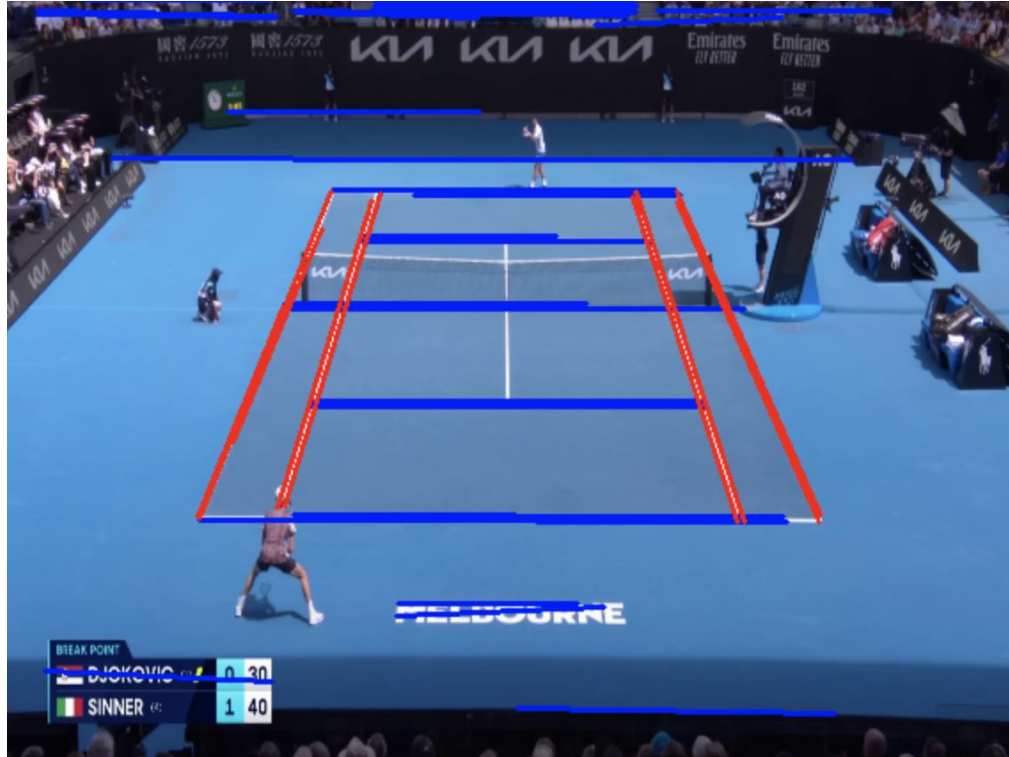# Algorithm: *YOLO Nano 8*

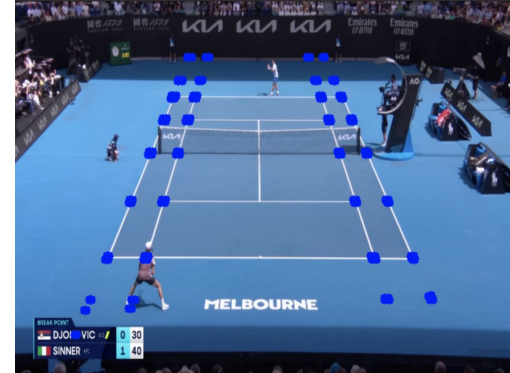**Object Detection**

Object Tracking
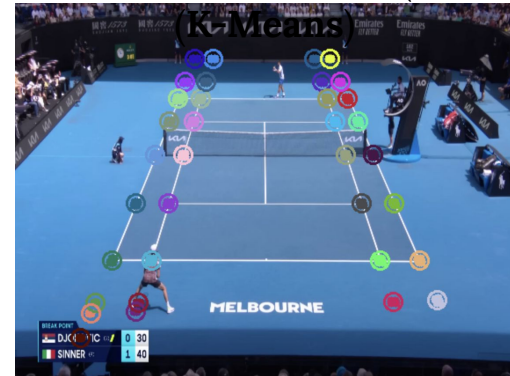
Feature detection

Find **Horizontal** and **Vertical** Lines with **Canny Detector** and **Hough Transform**
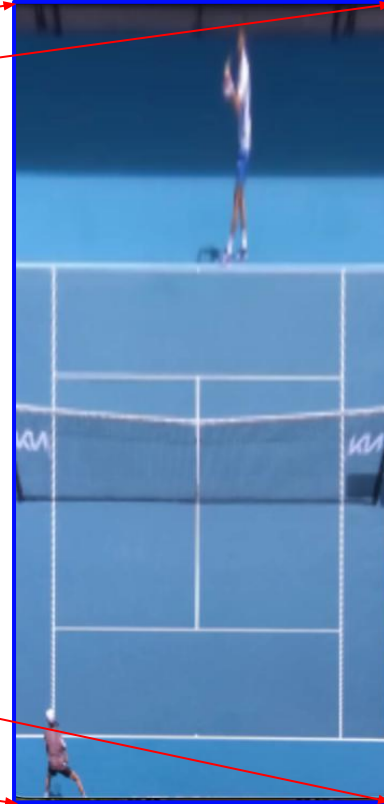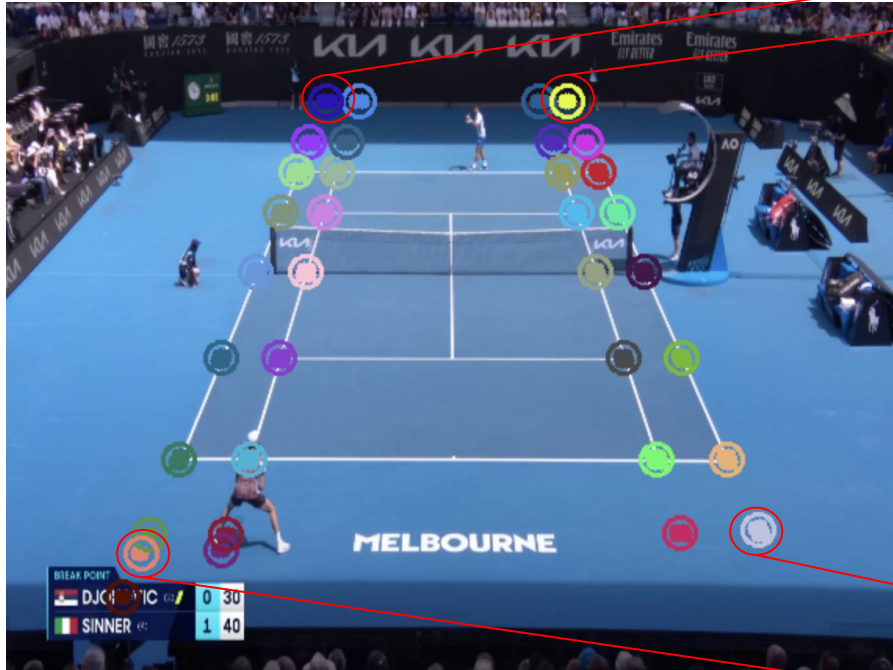

Compute the **Intersections**

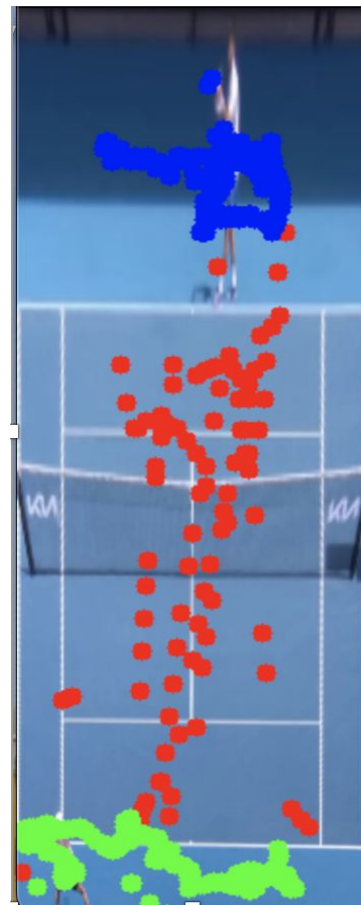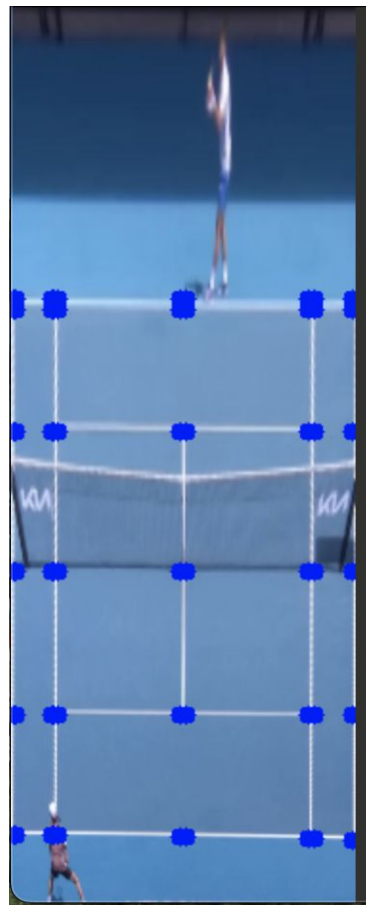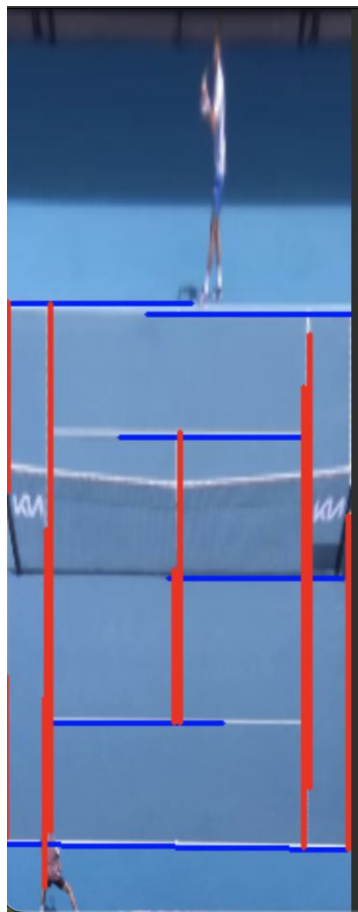**Cluster** the Intersections (**K Means**)

Image rectification

Apply the **Detection** and **Tracking** Algorithms also on the **Rectified Court** (View from Above)
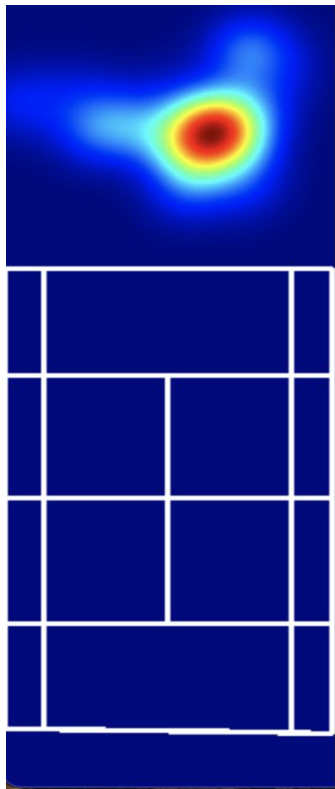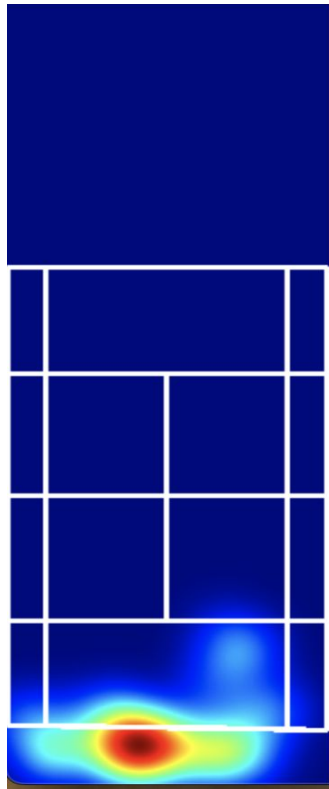

Detection

Tracking

Heatmaps to Analyze the **Position** of the **Players** and **Ball** through the Game
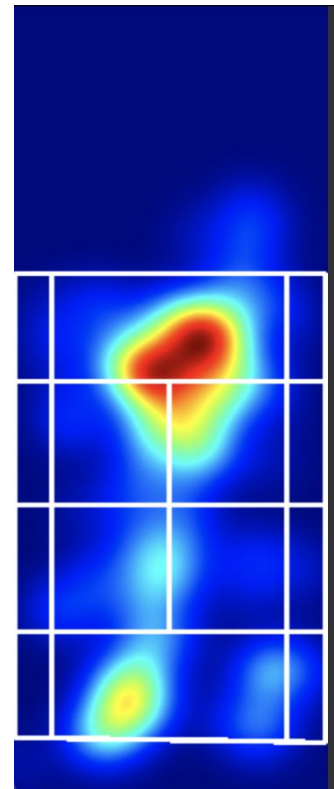

Djokovic

Sinner

Ball

Future Work

● Run the model on **GPU**

● Analyze a **full** tennis **game**

● Enhance **ball tracking**
(Bounces, Spin)