

APPLIED DATA SCIENCE PROJECT

BALL AND PLAYERS TRACKING IN PADEL MATCHES VIDEOS



**Politecnico
di Torino**

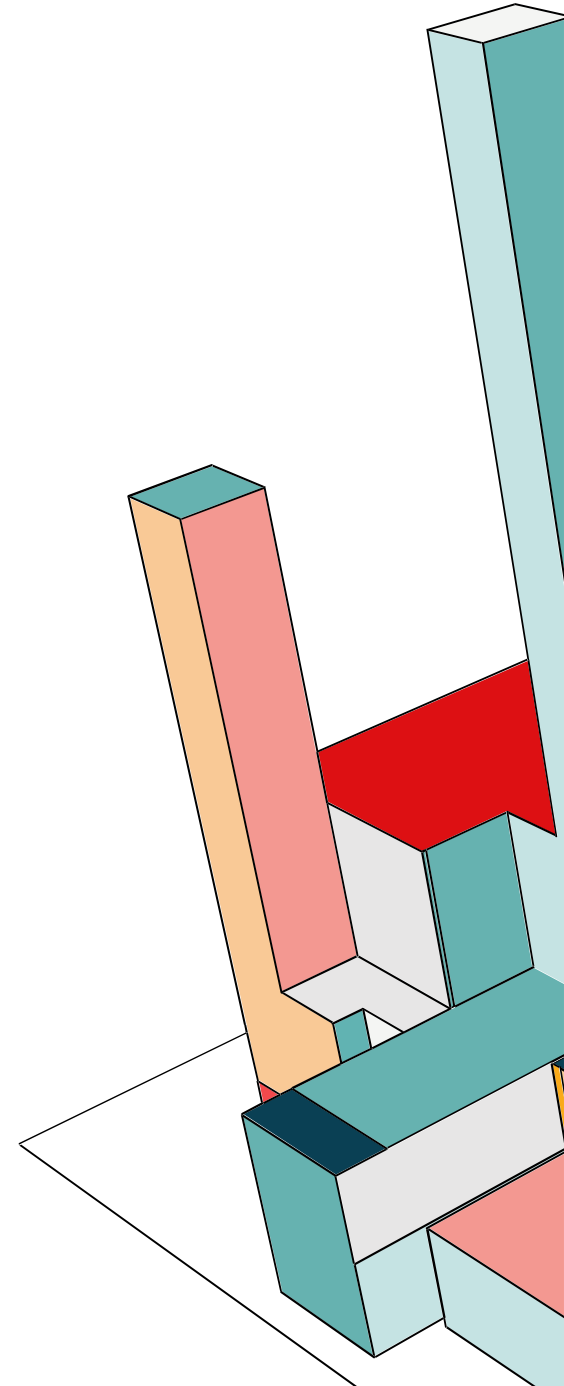
FONDAZIONE
links
PASSION FOR INNOVATION



e11is
European Laboratory for Learning and Intelligent Systems

VALUE-DRIVEN PROJECT

- Automatic **analysis** of **sports videos** has gained increasing attention in recent years, driven by its potential applications in performance analysis and tactical evaluation
- Utilising **computer vision** offers a promising solution to automatically analyse long footage of padel matches and extract meaningful statistics
- This project aims to develop a machine learning algorithm to automatically track the position of ball and players in a padel match and generate insights



DATA

- Padel Tracker 100 Dataset:
 - Two extracts from 2022 World Padel Tour Finals



- With annotations of



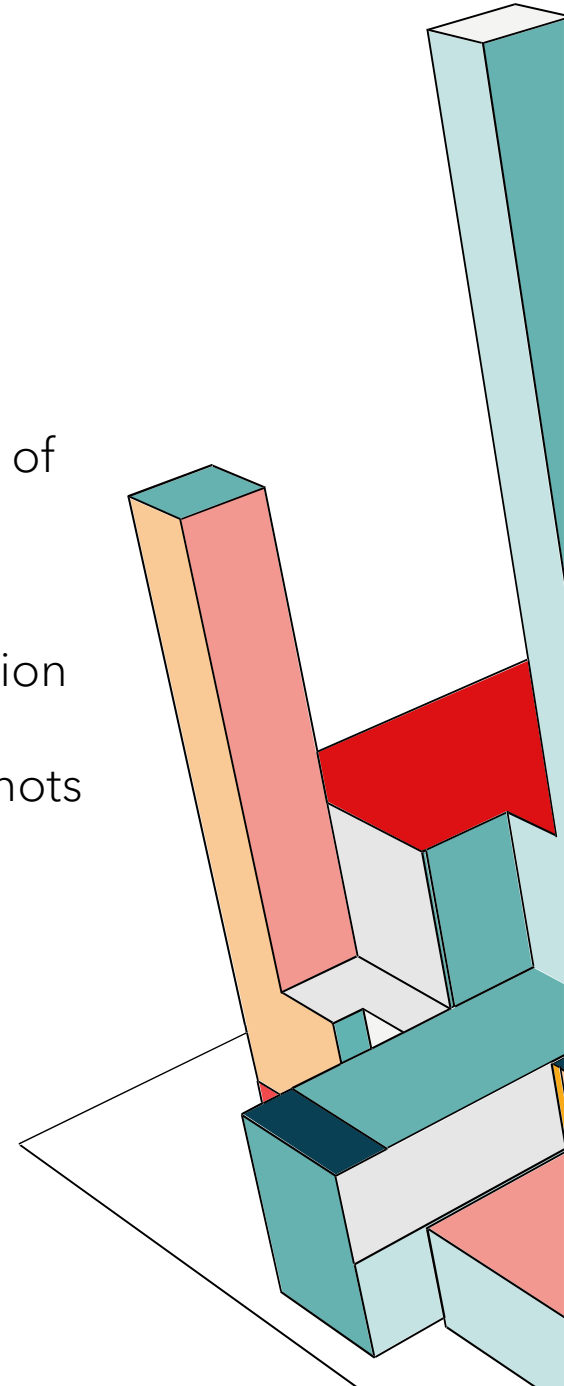
Ball Position



Players position

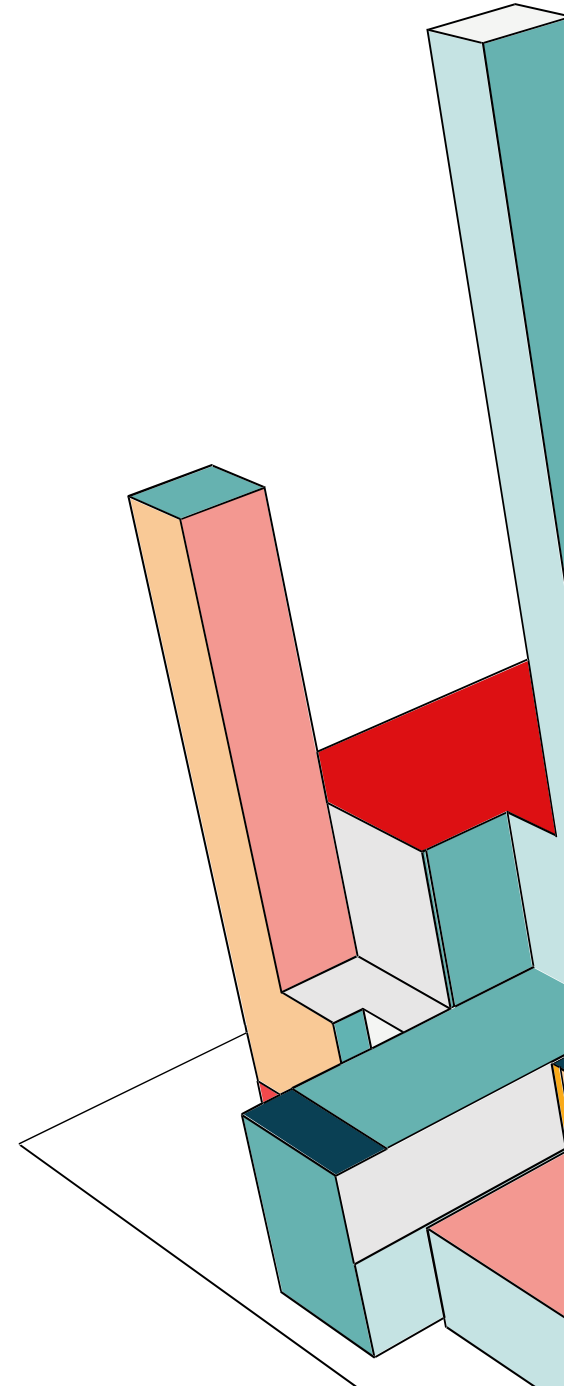


Performed shots



TASK

- **Object Detection** task where the objective is to estimate ball and players position in each frame
- Participants are thus tasked to develop a **machine-learning** model that processes each **frame** of input video data and outputs the objects bounding boxes
- Reference metrics for the tasks are **mAP** (Mean Average Precision) and **IOU** (Intersection over Union).

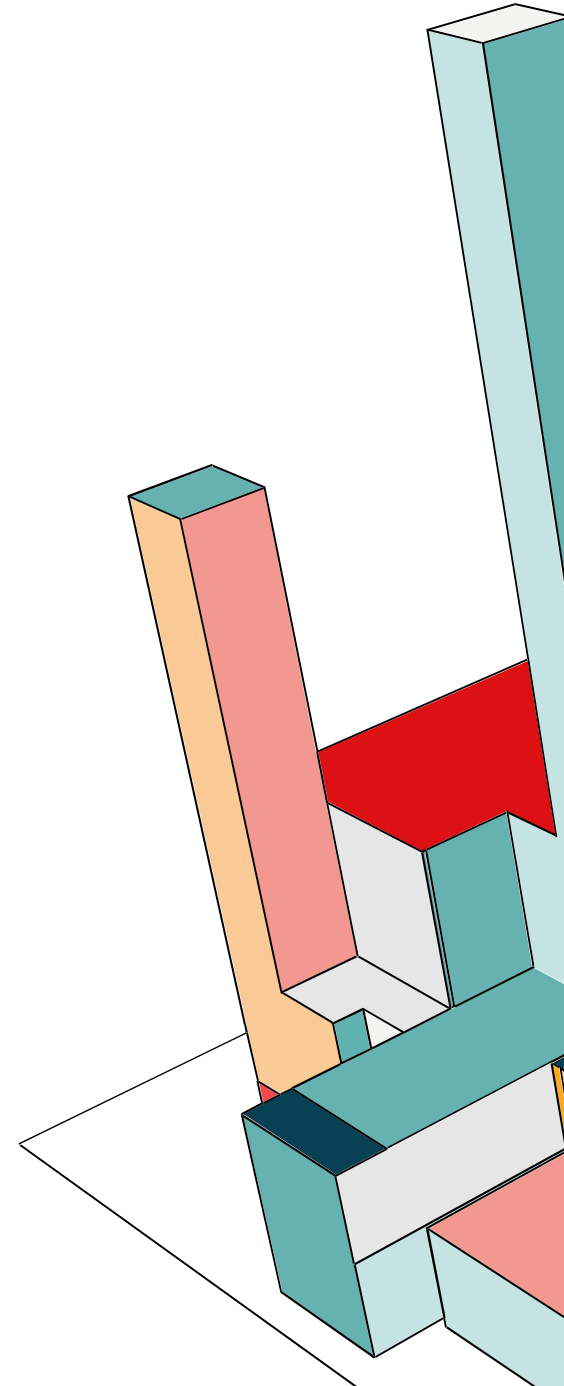


NOTES AND CHECKS FOR THE COMPANY



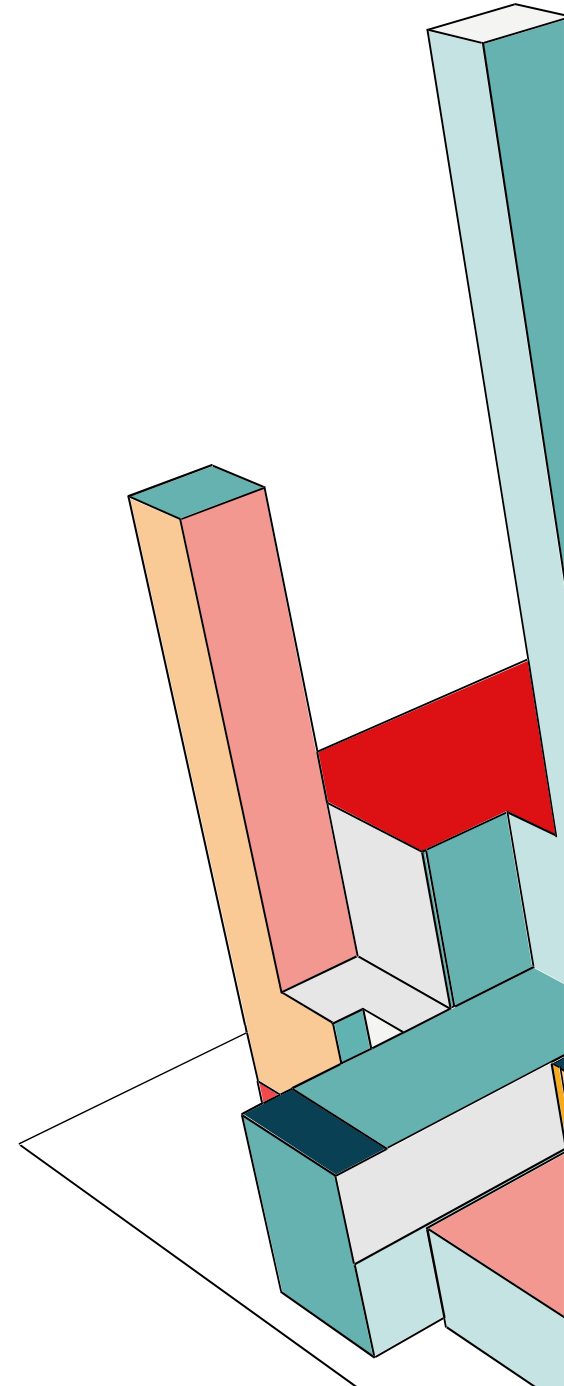
LIGHT MENTORING

- The following meetings will be organized:
 - **First (longer) meeting** as introduction to the existing pipeline and methodology, context and data presentation.
 - **Periodic bi-weekly meetings** (1h) with LINKS to align with the current development.



POLICY

- Data are obtained from a third party and are affected by an NDA agreement
- Participants must sign an NDA agreement for provided data
- Code and methodology could be published



THANKS FOR THE ATTENTION

CONTACTS

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