Interdisciplinary Project

Pose Estimation from Drone Footage

Extraction of player and ball tracking data is essential in every kind of team sports analysis for researchers and practitioners. This allows us to compute performance indicators of players to help improve their performance and start load management. Furthermore, it helps to compute advanced statistics in competition games. As video cameras are available more and more, high dimensional and storage extensive video data can be generated. This data needs to be transferred in low-dimensional tracking data, as most of the data is useless. Players Pose Data can be extremely valuable to coaches to get advanced information from the low dimensional tracking data.

Project

Currently, a software for performance analysis is being developed, which extracts tracking data from video. Currently, this data consists of players' positions and ball position from a drone video. We would like to extend the data with poses for each player.
The scope of this IDP is to

- Develop a Pose Estimation Algorithm for Sports Players from Birdeye-View video footage (see Image below)

Applicants should have experience in

- Basic understanding of Python
- Solid understanding of pose estimation algorithms or the willingness to learn about it

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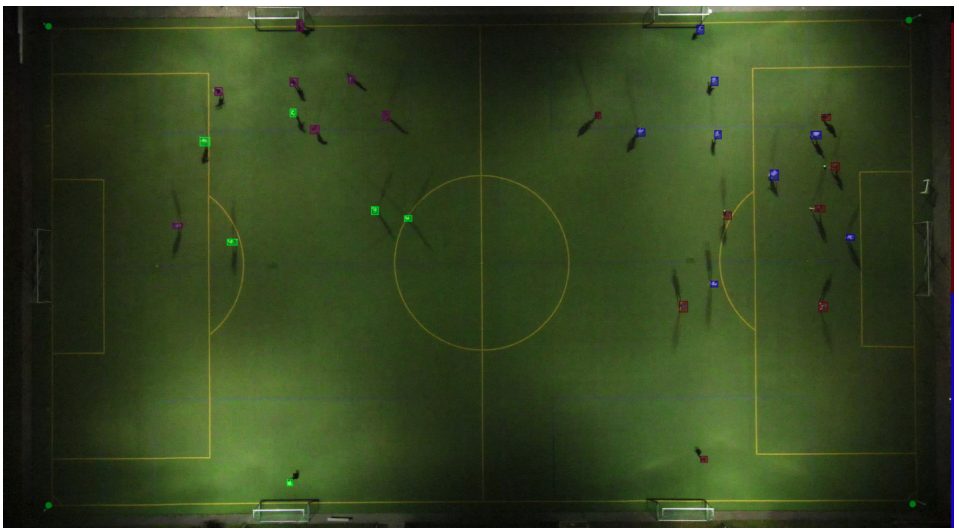

Courses

Participation in the following courses is recommended.

- Principles of Exercise Science 1 and 2 (V, 2 SWS each)
- Other courses from Health Sciences

Time frame

The work can start at any time. The time horizon is strictly limited to 6-8 months after project application.

If you are interested, please send an email to marc.s.schmid@tum.de