

1. It's likely that this particular problem wasn't anticipated, which means during the training phase the images supplied didn't include any bald heads inside the field in these lighting conditions, and that lead to the system not being able to properly distinguish the two. During the evaluation phase there probably weren't any images containing bald heads either, because in that case the mistake could have been spotted.
2. The obvious solution is to help with the visual identification, so to include this kind of case in the training and test with similar cases. That would mean having to find enough images where a bald head is inside the lines and still have some different ones to verify that the system distinguishes the head from the ball, and it would also mean having to increase the training data size. The advantage is that it wouldn't require changes in the algorithm, so it's a quicker solution.

Another possible solution would be to improve the algorithm, so that when tracking the ball the system couldn't leap such a big distance across the field for example. That would mean taking a longer time to develop and test new code, but could potentially make the tracking sturdier without adding the extra weight of more training data if successful.

3. Deep SORT, it tracks taking into account the visual similarity of the objects.