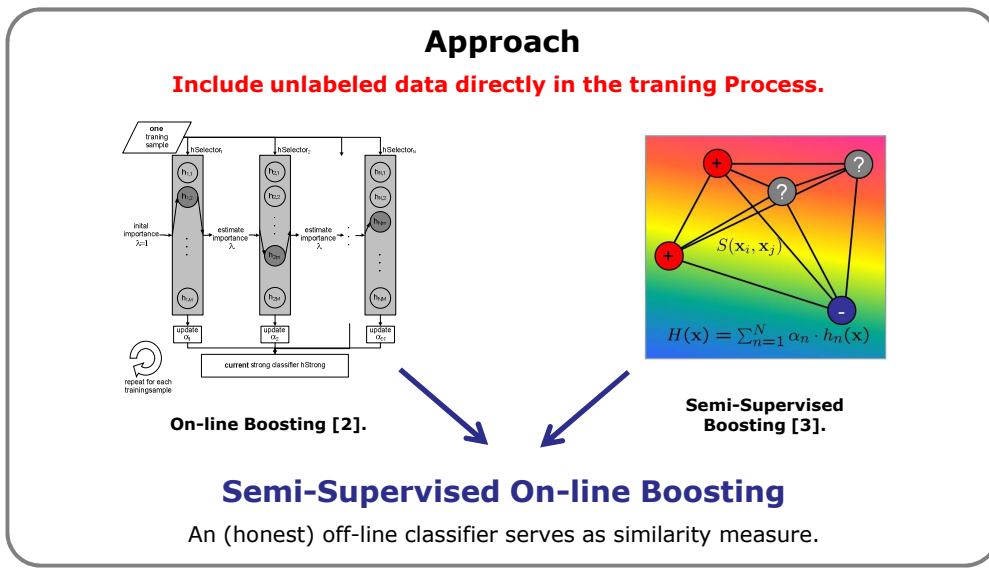
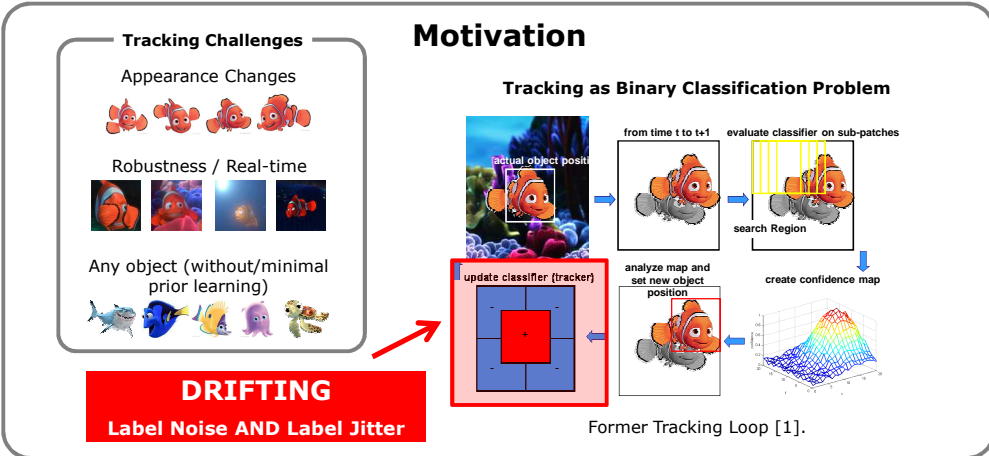
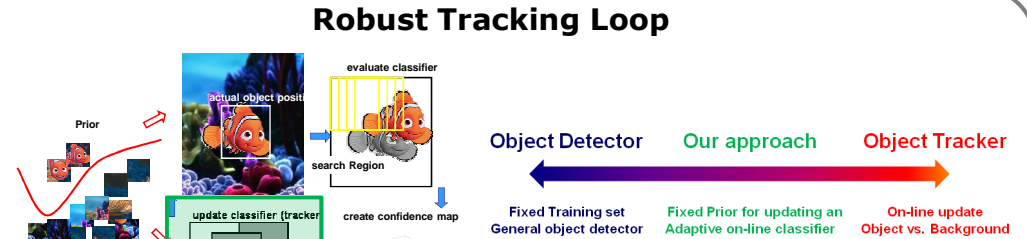


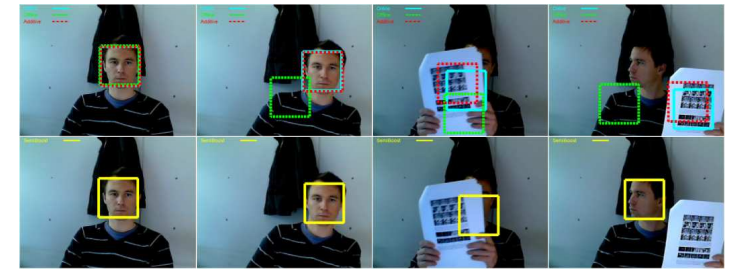
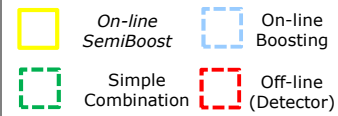
Abstract. Recently, on-line adaptation of binary classifiers for tracking has been investigated. On-line learning allows for simple classifiers since only the current view of the object from its surrounding background needs to be discriminated. However, on-line adaptation faces one key problem: Each update of the tracker may introduce an error which, finally, can lead to tracking failure (drifting). The contribution of this paper is a novel on-line semi-supervised boosting method which significantly alleviates the drifting problem in tracking applications. This allows to limit the drifting problem while still staying adaptive to appearance changes. The main idea is to formulate the update process in a semi-supervised fashion as combined decision of a given prior and an on-line classifier. This comes without any parameter tuning. In the experiments, we demonstrate real-time tracking of our SemiBoost tracker on several challenging test sequences where our tracker outperforms other on-line tracking methods.



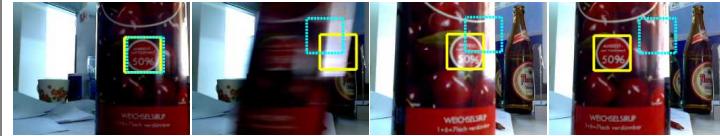
Limit DRIFTING

Experiments

Comparison



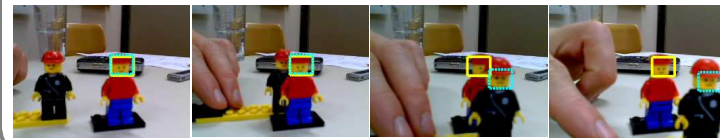
Fast Movements



Long-term Experiment (~1h)



Similar Objects



References

- [1] H. Grabner, M. Grabner, and H. Bischof. *Real-time Tracking using On-line Boosting*, BMVC, 2006.
- [2] H. Grabner, and H. Bischof. *On-line Boosting and Vision*, CVPR, 2006.
- [3] C. Leistner, H. Grabner, and H. Bischof. *Semi-supervised Boosting using Visual Similarity Learning*, CVPR, 2008.

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