



DIRAC

Detection and Identification of Rare Audiovisual Cues

While the machine learning community has primarily focused on analysing the output of a single data source, there has been relatively few attempts to develop a general framework for using several data sources in a principled way. On the other hand, learning from multiple sensory channels is present in almost any biological system. Indeed, multimodality is one of the main reasons why biological systems are able to cope with the complexity of the world. In the field of learning from multimodal there are many important research issues, such as how to optimally combine different source of information and at which level of the classification process. Moreover, the use of multiple source of information could be used to bootstrap one modality from the other ones, or to help in disambiguating difficult classification tasks. This is particularly interesting in an online learning framework, where the classifier has to be constantly updated with new incoming knowledge.

The main idea of this project is to explore the possibilities offered by the use of multiple source of information, within the DIRAC framework. In particular we propose to investigate the effectiveness of a recently introduced learning framework, i.e. multi view learning, for modeling audio-visual patterns.

Specifically, we will compare multi-view learning to other approaches recently developed in the project [ICVS08, ICCS08] for integration of multiple modalities.

Bibliography

[ICVS08] Object Category Detection using Audio-visual Cues, Jie Luo, Barbara Caputo, Alon Zweig, Jorg-Hendrik Back and Jorn Anemuller, in: International Conference on Computer Vision Systems (ICVS08), 2008

[ICCS08] Biologically Motivated Audio-Visual Cue Integration for Object, Joern Anemuller, Joerg-Henrik Bach, Barbara Caputo, Jie Luo, Frank Ohl, Francesco Orabona, Rufin Vogels, Daphna Weinshall and Alon Zweig, in: Proceedings of the first International Conference on Cognitive Systems, 2008

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