

## 1. Introduction

My research is focused on study and develop a highly scalable indexing scheme for uncertain multimodal data, based on data mining techniques, to enable effective content-based multimedia search and retrieval. The research is performed in the context of the TrecVid Hyperlinking task.



## 4. Results

The data used in TRECVID 2016 and 2017 competitions consists of 14,838 videos, for a total of 3,288 hours, provided by blip.tv. The mean length of videos is around 13 minutes. The training set provided by TrecVid contains 90 query anchors and their corresponding set of ground-truth related segments. The test set consists of 25 different query anchors.

# 2. Video Hyperlinking

The Video Hyperlinking aims at linking anchors related to a temporal segment of a video. The goal in video hyperlinking is to suggest relevant segments to related target video anchors based on the multimodal contents of the anchor video segment.



## **3. Automatic Feature selection (AFS)**

The AFS algorithm is the best algorithm that we developed for TrecVid 2017. In this algorithm, the following features are used: Metadata, LIMSI transcripts and Visual concepts. We also applied a Named-entity recognition (NER) technique to identify entities and a Concept mapping technique to identify the most relevant visual concepts.

The AFS (Automatic Feature Selection) approach yields the best results in term of all the considered metrics. Other approach base on Metadata achieved the lowest result. Also the results of Monomodal approaches, are on the average lower than the results of AFS.

Based on the results published by the TRECVID 2017 organizer, AFS ranked first among the other competitors (based on MAiSP measure which is the main measure in the TRECVID)



## 5. Conclusion

The AFS approach is based on two steps. In the first step, AFS considers one feature at a time and selects the subset of relevant segments for each feature.

In the second step, the subsets of segments retrieved in the first step are merged and ranked in terms of relevance score. The output of this second step is the final result of this algorithm.



The proposed system has explored the use of textual and visual features for solving the Hyperlinking task. Specifically, we have considered the LIMSI transcripts, visual concepts and Metadata. Moreover, named-entity recognition and a concept mapping technique have also been considered. The achieved results show that the proper combination of several features performs better than single features.

#### 6. References

- 1. Huet B, Baralis E, Garza P, Kavoosifar MR (2016) Eurecom-Polito at trecvid 2016: Hyperlinking task
- 2. Huet B, Baralis E, Garza P, Kavoosifar MR (2017) Eurecom-Polito at trecvid 2017: Hyperlinking task