MED Task Specification

We assume that you already generate the feature representation for each video. That is, each video is now represented by a single feature vector.

Training

You already select the training data, including positive and background examples, **for each event**. Reference training lists can be found under

/data/MM1/11-775/ymiao/HW1/example_setup

where P001_train, P002_train and P003_train correspond to the training lists for the three events respectively.

Now on each event, we train a binary classifier totally independent of the other events. For example, for event "P001", we train a classifier with the list P001_train. The two classes mean that a video "is" and "is not" about event P001.

Testing

According to the homework instructions, the testing videos contain the remaining 41, 44 and 49 videos from P001, P002 and P003, as well as another 100 background videos. For a reference, the testing list is

/data/MM1/11-775/ymiao/HW1/example_setup/test

Note that we don't split the testing list into 3 sub-lists for individual classes. This is because for MED, we are NOT performing a classification task. In fact, we are **performing a retrieval task**. Here are the steps you need to take:

1. Apply the **P001** classifier to **the whole testing list**. For each testing video, you get a score indicating how likely this video belongs to the event P001.
2. Output the scores of the testing videos to a **prediction file** where each line corresponds to a testing video. The order of the videos in the original testing list has to be kept in this prediction file. An example of such a file can be found here:

   /data/MM22/xiaojun/Zhigang/mAP/prediction_file

Note that you don't need to rank the testing videos. The mAP package will do the ranking and scoring automatically.

3. Convert the testing list into a **P001-specific** label file. The labels 0/1 indicate if each of the videos belongs to P001 or not. An example of the conversion is:

HVC1115	P001		1
HVC1040	P002		0
HVC1212	P001	⟹	1
HVC2785	P003		0
HVC2319	NULL		0
HVC2827	P001		1
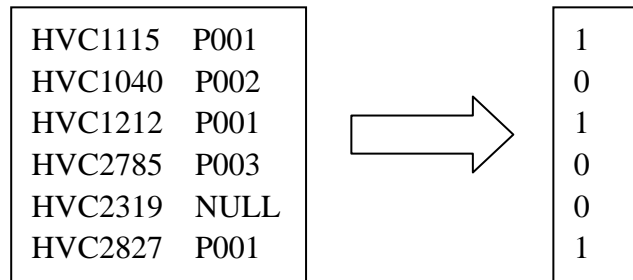
4. Get the Average Precision (AP) score using the mAP package:

   /path/to/mAP/ap label_file prediction_file

   Now you get the AP for event P001. You can think of this as the AP you get when you perform retrieval by taking P001 as the query.

5. Iterate Step 1-4 on P002 and P003 as well. Finally averaging the 3 AP values will give you the mAP score.