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REVIEW of MASTER THESIS

Title: Eye blink detection using facial landmarks
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Comments:

In this master thesis is presented two different methods to detect an eye blink. Both methods SVMs and HMMs are extensively used in the literature, in this case applied to eye blink detection. The input for these methods is a ratio between the location of different 2D positions of face landmarks. Two different face landmark algorithms are evaluated, and only one of them used for the experiments. The experiments are performed on three different datasets as well as in an own recorded dataset for drowsiness evaluation.

There are few details I would like to mention: In section 2.1.1 are commented several statistics about average blinking for an adult person among others. Where this statistics are extracted from? There is only a reference for woman taking contraceptive methods but not others. Found small typo in the last line of page 15 (then instead of than). Why is a difference of resolution between Figure 5.3 and Figure 5.4? In the thesis is not mentioned which libraries are used for SVM and HMM, and if used the default parameters. A section with a short introduction about the face landmark detection used it would have been useful too.

Apart from the remarks stated above, the thesis is easy to read. I specially like the related work section with figures to explain the different methods. Proposed method section is also described in a very didactic manner with details of the algorithm explained step by step. Experimental section is very complete, different aspects of the algorithms used are evaluated and the results obtained are justified.

Questions:

1) How would affect to the HMM performance if we had either too short or too large learning time L?

2) In drowsiness experiments did you consider to record much longer videos performing a single task which requires concentration? It would be interesting to know at what point in time the concentration starts to decay and if this decay point is similar for different users.

Evaluation mark:

B – very good (B^+)

I think the evaluation mark should be somewhere between the A – excellent and B – very good