YawDD: A Yawning Detection dataset

Purpose

YawDD contains two video datasets of drivers with various facial characteristics, to be used for testing algorithms and models for mainly yawning detection, but also recognition and tracking of face and mouth. The videos are taken in real and varying illumination conditions.

- In the first dataset a camera is installed under the front mirror of the car. Each participant has three/four videos and each video contains different mouth conditions such as normal, talking/singing, and yawning. This dataset provides 322 videos consisting of both male and female drivers, with and without glasses/sunglasses, from different ethnicities, and in 3 different situations: 1- normal driving (no talking), 2- talking or singing while driving, and 3- yawning while driving.

- In the second dataset the camera is installed on the driver's dash. Each participant has a single video containing scenes with driving, driving while talking, and driving while yawning. This datast provides 29 videos consisting of both male and female drivers, with and without glasses/sunglasses, from different ethnicities.

Format and Available Data

The videos are in 640x480 24-bit true color (RGB) 30 frames per second AVI format without audio. The available data and their features are listed in table 1 and table 2. The total data size is about **5.1 Gigabytes** and can be accessed through ACM Multimedia Systems Conference Dataset Archive.

License and Usage

The videos are for non-commercial and research purposes only! No other usage is allowed! The videos are free and can be used in non-commercial and/or academic papers which study, design, and test algorithms and methods to detect face, facial features, and yawning. In addition, screen-shots of some (not all) videos can be used in such papers. Please check the *Allow Researchers to use picture in their paper* column in the above tables to see if you can use a screenshot of a particular video or not. **If for a particular video that column is "no", you are NOT allowed to use pictures from that video in your papers and publications.** Also, the following publication must be cited whenever making use of this dataset in any paper, publication, or report:

S. Abtahi, M. Omidyeganeh, S. Shirmohammadi, and B. Hariri, "YawDD: A Yawning Detection Dataset", Proc. ACM Multimedia Systems, Singapore, March 19 -21 2014.

How to Contribute Videos to the Dataset

We welcome the addition of more videos to the dataset. Please send an email to shervin@ieee.org if you would like to add more videos. Based on the format and quality of your videos, as well as the willingness of the volunteers in your videos to sign our licensing agreement, we might be able to add your videos to the dataset.