

Grasping -in-the-Wild

Egocentric video data set

Technical parameters:

“Grasping in the wild” dataset has been recorded by Tobii Glasses 2 [1] in the experiment when subjects are grasping objects of everyday life in an ecological environment: in 7 kitchens.

The data set contains video clips of a short duration (mean duration is of 9, 25 sec) and corresponding .json files with gaze fixation coordinates accordingly to the format of Tobii eye-tracker [2] in json format. The paper [3] explains the json structure and provides a software which extracts and converts the json data into a text file.

The corpus also contains bounding box coordinates in each image encircling objects, which were obtained due to the visual annotation process described in [4].

It also contains

- a selection of patches containing objects normalized to the size 227x277 pixels corresponding to all recorded bounding boxes.
- a selection of patches from scene background also normalized to 227x227 size.

For each object, an image – example.png is supplied.

Copyrights and citations:

The corpus results from the research in the framework of the project [Suvipp PEPS CNRS-Idex 215-2016](#) and Interdisciplinary project [CNRS RoBioVis 2017 – 2019](#) Supported by French National Center of Scientific research.

These reference have to be used in all publications related to this data.

The recording and annotation process was the same as in [4]. This paper has to be cited each time the corpus is used.

The volunteers participating in the experiments gave their consent for the open use of the corpus for scientific research only.

« Le traitement a fait l'objet d'une déclaration auprès du correspondant informatique et libertés de l'université et figure dans le registre des traitements de données à caractère personnel de l'université 02/03/2016. »

Data treatment was declared to the “Informatics and freedom” chair of the University of Bordeaux and is recorded in the register of treatment of data of personal character of the University of Bordeaux. The date of registration is 02.03.2016

Details of the content:

This dataset contains 404 egocentric videos in which the subject wearing the camera is looking for an object and then grabbing it.

All videos were recorded at 25 fps frame rate.

All gaze fixations were recorded at 50 HZ

It is organized in 16 folders named after 16 different daily life objects that can be found in a kitchen.

Each of these object folders contains one folder per video of the object considered. The name of these folders indicates in which place the object was and whose subject has grabbed it. For instance, the folder corresponding to the video of a bowl grabbed by subject 1 in place 2 will be called 'BowlPlace2Subject1'.

Each of these video folders contains:

- A file 'ObjectPlaceNSubjectM.mp4', the egocentric video
- A file 'ObjectPlaceNSubjectM.json', gaze fixations file
- A file 'bounding_box.txt' giving for each frame the bounding box in which the object is contained. The four values given for each frame are respectively the line coordinate of the top left corner, the column coordinate of the top left corner, the width and the height of the bounding box.
- A file 'Example.png', which is an image of the object considered
- A folder 'patches' containing patches of the object extracted from the video. The patches are named 'Frame_N_fg.png', where N is the time in ms when the patch has been extracted from the video.
- A folder 'patches_background' containing background patches extracted from the video. The patches are named 'Frame_N_bg.png', where N is the time in ms when the patch has been extracted from the video. An illustration is given in Figure 1.

Two zip files contain 17 tables in xlsx and html formats. The first table named 'CorpusDescriptionOverall' contains the description of all videos with their number per object and duration in frames and seconds. 16 other files contain the description of videos of each single object category.



Figure 1. Illustration of the content. Example-patches of objects

References

- [1]. Tobii Pro. Tobii pro glasses 2, <http://www.tobii.com/product-listing/tobii-pro-glasses-2>

[2]. Tobii Pro Glasses 2 API, <https://www.tobii.com/product-listing/tobii-pro-glasses-2-sdk/>

[3]. Wulff-Jensen Andreas, ‘*Data Conversion Tool For Tobii Pro Glasses 2 Live Data Files: From .json to .txt*’ https://github.com/anwul4/Tobii_JsonToTxtConversionTool.git

[4]. P. Pérez de San Roman, J. Benois-Pineau, J.-P. Domenger, F. Paclet, D. Cataert, A. de Ruy, “*Saliency Driven Object recognition in egocentric videos with deep CNN*”, CVIU, available online March 20, 2017, pp. 1-10, <https://doi.org/10.1016/j.cviu.2017.03.001>