Eye Movements Verification and Identification Competition

Determine how people may be identified based on their eye movement characteristic.

46 teams · 6 years ago

Competition Data

Edit

- rf_benchmark.csv
- svm_benchmark.csv
- test.csv
- train.csv
- uniform_benchmark.cs...

test.csv 10.41 MB

Download

Data Description

Code for benchmarks

Dataset is stored in simple CSV format where first column is classification (0 or 1) and all other columns are values obtained from eye tracker.

The dataset consists of 978 samples from 37 subjects. Every sample is labeled with 1 (it belongs to one chosen specific person) or 0 (it belongs to someone else). Samples were taken with 250Hz frequency using Ober2 eye tracker. As it was 2048 measures taken, the whole measurements lasted 8192 ms. There was a jumping point on 3x3 matrix used as stimulus. The stimulus consists of eleven point position changes giving twelve consecutive point positions. First point appears in the middle of the screen and the person should look at it with eyes positioned directly ahead. After 1600 ms the point in the middle disappears and for 20 ms a screen is blank. In that time eyes are in instable state waiting for another point of interest. Then the point appears in the upper right corner. The flashing point on the blank screen attracts eyes attention even without the person's will. The 'jumps' of the point continue until the last point position in the middle of the screen is reached.

Dataset visualization

Datasets downloadable for competition are available in CSV format. It is a text file with one line for every sample. Every line is a list of comma separated elements as follows:

```
class lx rx ly ry
```

where:

- `class` - sample's classification (1 - 37 for training set and '?' in test set)
- `lx` - list of 2048 comma separated values of left eye gaze points on X axis.
- `ly` - list of 2048 comma separated values of left eye gaze points on Y axis.
- `rx` - list of 2048 comma separated values of right eye gaze points on X axis.
- `ry` - list of 2048 comma separated values of right eye gaze points on Y axis.

The values are 0 for point in the middle, positive for point on the right or upper side of the screen and negative for points on the left or lower side of the screen. http://www.kasprowski.pl/emvic/stimFile.txt

Final remark

The dataset was collected at Silesian University of Technology, Poland by Dr. Paweł Kasprowski.

All data is published for purpose of competition only. However, if you intend to use the data in your future research you may do it only if the databases are acknowledged with the following reference:

KASPROWSKI, P., OBER, J. 2004. Eye Movement in Biometrics, In Proceedings of Biometric Authentication Workshop, European Conference on Computer Vision in Prague 2004, LNCS 3087, Springer-Verlag.the IEEE/IARP International Conference on Biometrics (ICB), pp. 1-8.