The ULg Multimodality Drowsiness Database (called DROZY) and Examples of Use

Quentin MASSOZ, Thomas LANGOHRI, Clémentine FRANÇOIS, Jacques G. VERLY
INTELSIG Laboratory, Dept. of Electrical Engineering and Computer Science, University of Liège, Liège, Belgium

Description

DROZY is a database containing various types of drowsiness-related data (signals, face images, etc.) and intended to help researchers to carry out experiments, and to develop and evaluate systems (i.e. algorithms), in the area of drowsiness monitoring.

Data acquisition

- 14 young, healthy participants (3 M, 11 F)
- PVT = Psychomotor Vigilance Test [1] (duration of 10 minutes)
- Protocol approved by the Ethics Committee of our university.

Database content

- Time [ms]
- 105.84 ms
- We obtain an RMSE of 105.84 ms and a Pearson’s correlation of 0.67 using leave-one-subject-out cross-validation.
- 5a) Regression: we use epsilon-SVR models (with an RBF kernel) to predict the post-stimulus 1-min mean reaction time (RT) from pre-stimulus ocular parameters. We obtain an RMSE of 105.84 ms and a Pearson’s correlation of 0.67 using leave-one-subject-out cross-validation.

Acknowledgments

We thank:
- the participants for enduring the acute sleep deprivation of 28.30 hours,
- David Groga and Philippe Latour (ULg researchers) for their help in supervising the data collection,
- the Belgian FRIA F.R.S-FNRS for supporting Quentin MASSOZ with a fellowship.

References