

Workload estimation using bio-signals for adaptive training system

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We will present an algorithm for workload estimator based on biological signals - electroencephalographic and eye-tracking. The workload estimator is person- and session- independent, designed to work in a virtual reality flight simulator environment and is a part of our adaptive training system. The novel component is using objective evaluation of the workload, based on the flight logs, as labels for training the regression neural network. As evaluation parameter is selected the correlation with the objective labels. We will present the results from using several feature sets and estimators, where the best estimator achieves correlation with objective labels of 0.84. The proposed approach has potential for expanding the applications for any training process or wherever workload estimation is necessary.