

## Effect of Signal Acquisition Procedure on Imagined Speech Classification Accuracy

**Authors :** M.R Asghari Bejestani, Gh. R. Mohammad Khani, V.R. Nafisi

**Abstract :** Imagined speech recognition is one of the most interesting approaches to BCI development and a lot of works have been done in this area. Many different experiments have been designed and hundreds of combinations of feature extraction methods and classifiers have been examined. Reported classification accuracies range from the chance level to more than 90%. Based on non-stationary nature of brain signals, we have introduced 3 classification modes according to time difference in inter and intra-class samples. The modes can explain the diversity of reported results and predict the range of expected classification accuracies from the brain signal acquisition procedure. In this paper, a few samples are illustrated by inspecting results of some previous works.

**Keywords :** brain computer interface, silent talk, imagined speech, classification, signal processing

**Conference Title :** ICBCIAT 2023 : International Conference on Brain-Computer Interfaces and Assistive Technologies

**Conference Location :** Dubai, United Arab Emirates

**Conference Dates :** January 30-31, 2023