

Evaluation of human cognition/judgment and quantification of human condition/emotion by analysis of biological signals

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Illustration

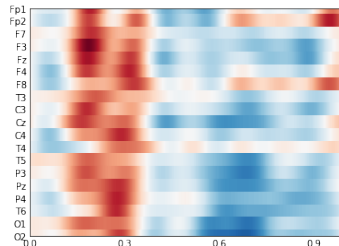


Figure 1

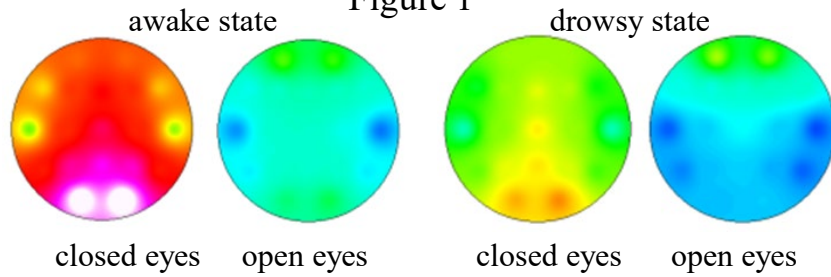


Figure 2 (The upper part represents the frontal region.)

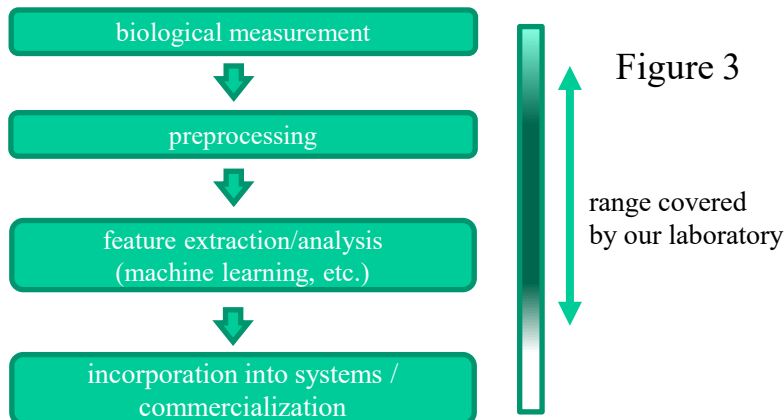


Figure 3

Content:

In our laboratory, we measure biological signals such as brain waves (Fig. 1 left) and analyze the obtained data using a computer (Fig. 1 right). In particular, we focus on the following two points.

- (1) Development of biosignal measurement method and processing/analysis algorithms related to human cognition and judgment. (e.g. estimation of an object that a person is paying attention to or perceiving from multiple objects.)
 - (2) Development of a quantification method for the human condition and touch, smell, taste, emotion that tend to rely on subjective evaluation. (e.g. judgment of awake and drowsy states in Fig. 2.)
- In biological measurement, we are working not only on measurement but also on constructing a measurement environment and experimental design to obtain ideal results. We also introduce machine learning (deep learning, etc.) to extract useful information from signals and to interpret results easily.

Appealing point:

Our laboratory has accumulated know-how on biological signal analysis through many years of research. We believe that it will lead to commercialization of product by collaborating with companies that develop measuring devices and embedded systems (Fig.3).

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