Current and future applications of brain-computer interfaces

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Abstract

Brain-computer interfaces are used for many different applications with invasive and non-invasive sensors. The systems are successfully used for stroke rehabilitation even many years after the stroke and are able to improve fine and gross motor functions. But BCI systems are also used for the assessment of command following in patients with disorders of consciousness. This is crucial information for family members and physicians of these patients. When EEG electrodes are implanted then the spatial resolution is much higher and this is important for pre-surgical functional mapping or to control human like avatars in real-time.