

Brain Computer Interface

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As the name implies, a computer-based system that receives brain signals and analyzes those signals is known as a brain-computer interface (Huang, et al. 2013). It then converts them into commands relayed to an output device to carry out the desired action. Individuals with no limb function can now "start moving" a mechanical arm to perform simple tasks, such as feeding themselves, using a Brain-Computer Interface (BCI). Cognitive control of an automatic device may one day make it possible for nearly everyone to move objects at a distance. When that happens, BCIs may be viewed less as a tool for the disabled and more as a tool for everyone, similar to the internet. Brain-computer interfaces could have a substantial but ambiguous influence on perceptions toward impairments and norms of physical form and function. Even though it can be liberating, it can also be oppressive. It is essential to have a brain-computer interfaces system to enable disabled people to carry out day-to-day activities. Brain-computer interfaces add a promise to disabled people for a better quality of life in the following ways.

Primary brain-computer interface (BCI) translation involves converting human brain activity into external action by transmitting neural commands to external devices. Even though the most common application of brain-computer interfaces is to assist disabled people with disorders of the motor system, it has the potential to be a handy tool for improving the quality of life of healthy people, particularly those over the age of 65. To help the aged continue with their household chores, strengthen their family relations as well as advance their reasoning capabilities it is necessary to develop assistive, adaptive, and rehabilitative brain-computer interface applications.

Brain-computer interface technology can be in various fields, such as the health sector, performing, tutoring as well as psychology. It can alleviate many health problems, including mental issues, slothfulness in processing speed as well as memory loss in older adults, among other things. This can hurt the significance of life of the elderly and may even harm their mental health (Ishii, S. 2015). Many brain-computer interfaces (BCI) applications have been developed in the last decade to assist older people in maintaining a healthy life and a sense of well-being.

Cognitively impaired elderly patients may benefit from using a brain-computer interface system, which has the potential to restore learning and improve memory, attention, and consciousness. BCIs, for example, have been used to refresh memory and make plans in patients through the use of semi electromagnetic activation and biofeedback that regulates activity in the patient's brain as part of a rehabilitation program, among other applications (Morales-Garcia, et al. 2022). To keep information and previous experiences available for recall whenever necessary, BCI helps restore the human brain's ability to do so. Learning from past experiences is made easier with memory, which also helps people learn new skills and information. The process of grouping and communicating between neurons in the human brain is viewed from a neurological and psychological perspective. A single area of the human brain is not responsible for human memory, but rather the cooperation of the several regions is required.

Conclusion

In conclusion, primary brain-computer interface (BCI) technology involves converting human neural activity into external action by transmitting neural prompts to external devices. In general, brain-computer interface systems could be beneficial to older adults in various ways,

including training their motor/cognitive abilities to prevent the effects of aging and controlling home appliances, among other things.

References

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