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Information technology - Brain-computer interfaces - Vocabulary

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FOREWORD

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Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1, and the ISO/IEC Directives, JTC 1 Supplement available at www.iec.ch/members_experts/refdocs and www.iso.org/directives.

INTRODUCTION

Brain–computer interface (BCI) is an emerging technology that facilitates direct communication between the brain and external devices, such as computers and robotic limbs. It links the brain's neural activity with the external world to repair, replace, or enhance human capabilities in interacting with the physical environment.

BCI has revolutionized and positively impacted several industries, including entertainment and gaming, automation and control, education, neuromarketing, and neuroergonomics. It has restored the capabilities of physically challenged people, improving the quality of their lives. Researchers have demonstrated human neuroprosthetic control of computer cursors, robotic limbs, and speech synthesizers.

Currently, the BCI represents a rapidly growing field of research, with a broad range of application scenarios. Its contributions span across the medical and health industry to entertainment and educational technology. For a more comprehensive and unified understanding of BCI technology, there is a need for a vocabulary to ensure that contributions can be understood and coordinated.

1 Scope

This document specifies the terms and definitions commonly used in the field of brain–computer interface (BCI), including basic concepts and classifications of BCI, hardware, experiment setups and protocols used in BCI, related neuroscience concepts of BCI (e.g. coding and decoding, feedback and stimulation), and its applications.

2 Normative references

There are no normative references in this document.