

BRAIN READING AS THE NEXT STEP OF HUMAN EVOLUTION? A SURVEY IN GERMANY ABOUT BRAIN-COMPUTER INTERFACES

Only little empirical research has been done examining the perspective of the general public on brain-computer interfaces (BCIs). In this study, we systematically explored social, legal and ethical attitudes towards non-medical applications of BCIs in Germany.

Reference: Schmid J.R., Friedrich, O., Nörtemann, S. & Jox R.J. Brain Reading as the next step of human evolution? – A survey in Germany about Brain-Computer Interfaces, Neuroethics, 2019 (in preparation).

WHO SHOULD READ THIS?

Research on BCIs is a highly interdisciplinary field including a wide range of stakeholders e.g. neuroscientists, medical doctors, philosophers and technicians. Furthermore, this paper aims to inform the general public and policy makers about the chances and risks of BCIs.



WHAT IS IT ABOUT?

Facing a new era of technology use where a fusion of man and machine is increasingly being realized by BCIs, a wide variety of questions concerning technology use arise. What kind of expectations and fears does the general public have? Who is responsible for BCI-mediated actions? What about issues of agency and privacy? Thus, fundamental questions regarding BCIs still need to be answered.

WHAT DID THE RESEARCHERS DO?

Based on the results of a qualitative interview study, an online survey was conducted in July 2018. A representative sample of the German public (n = 1000) evaluated 20 items. The survey assessed technology affinity, previous knowledge/experience concerning BCIs, the attitude towards ethical, social and legal implications of BCI use and demographic information.



WHAT DID THE RESEARCHERS FIND?

Our results indicate that BCIs influence subjective perception of human-machine interaction in a novel way. We found a positive view and high level of trust in BCIs on the one hand; on the other hand, BCI research provokes a wide range of ethical concerns. Agency and responsibility were attributed to the BCI user. However, questions of a possible change in conception of man remained unclear. Thus, our sample reveals a high level of ambivalence.

WHAT NOW?

This paper represents the first public survey regarding BCI-technology. We strongly encourage scientists from other countries and disciplines to do empirical research about BCIs in the general public. In this way, a responsible and secure future of BCIs is actively supported.

