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A novel Brain Computer Interface for classification of social joint attention in Autism and comparison of 3 experimental setups: a feasibility study

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Highlights

- A novel BCI paradigm interfaced with virtual reality for social skill training in autism
- Successful statistical classification of joint attention events
- Nautilus is the best performing system among the 3 tested ones

Abstract

Background

We present a novel virtual-reality P300-based Brain Computer Interface (BCI) paradigm using social cues to direct the focus of attention. We combined interactive immersive virtual-reality (VR) technology with the properties of P300 signals in a training tool which can be used in social attention disorders such as autism spectrum disorder (ASD).

New Method

We tested the novel social attention training paradigm (P300-based BCI paradigm for rehabilitation of joint-attention skills) in 13 healthy participants, in 3 EEG systems. The more suitable setup was tested online

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