

Keynotes / Vorträge 3



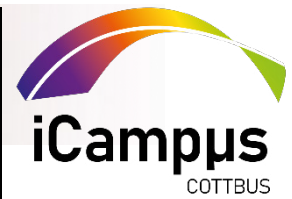
Neuroadaptive Artificial Intelligence: The convergence of Artificial and Human Intelligence

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Abstract:

In the rapidly evolving landscape of Artificial Intelligence (AI), the quest for a seamless integration between human cognitive processes and machine intelligence has led my team and me to an innovative concept: Neuroadaptive Artificial Intelligence. This keynote will delve into the core of this pioneering approach, which harnesses the potential of passive Brain-Computer Interfaces (pBCIs) to monitor and interpret shifts in a person's mental states in response to varying contexts. By associating these changes with contextual dynamics, Neuroadaptive AI endeavors to cultivate a deeper, more nuanced understanding of the surrounding world, thereby achieving unprecedented alignment with human perceptions and realities.

The importance of enhancing human compatibility with AI systems cannot be overstated, as it paves the way for a more synchronized coexistence between artificial and human intelligences. This presentation will highlight our groundbreaking research on Neuroadaptive Implicit Cursor Control—a proof of concept of the transformative power of this technology. In this study, a rudimentary AI system learns to identify objectives and devise strategies for goal attainment by integrating simple contextual cues with the brain's context-sensitive responses, without direct knowledge of the target's location. This example epitomizes the potential of Neuroadaptive AI to revolutionize the way machines understand and interact with their environment,



promising a future where AI systems share a common reality with their human counterparts.

Further underscoring the significance of this technology, Zander Labs has recently been awarded a substantial grant of 30 million euros by the German federal Agency for Cybersecurity (Agentur für Innovation in der Cybersicherheit), a recognition of Neuroadaptive AI as a pioneering and emergent technology with the potential to reshape the future. This investment is a testament to the groundbreaking nature of our work and our belief in its capacity to herald a new era of technology where AI is not just a tool, but a partner in understanding and navigating the complexities of the human experience.