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## Social Neuroscience and Ai: On Brain Scans & Computations

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In the past, brain functions were limited to physiology in neuroscience research. This approach, while accelerating our understanding of sensory and high-level cognitive functions through EEG, fMRI, and TMS experiments and scans, has led to the exclusion of an important factor: social cognition. The fact that people's thoughts and feelings about social interaction and relationships are one of the things that directly affect their mental generated social neuroscience approach which is a neuroscientific approach to social psychological issues such as ingroup-outgroup differences. The first significant emphasis on social consciousness occurred with the "Social Brain Hypothesis" published towards the end of the 20th century. It suggests that the brain evolved to manage complex social interactions, social status, intentional interference, and solving social challenges. Neurological imaging studies on animals have provided evidence of the role of social interaction in brain physiology. Social consciousness, whose effects continue to be researched, has started to be seen as critically important for AI technologies. Advanced AI aimed at acquiring social learning skills creates potential in robotics research to develop computational models that enhance observational learning, moral behavior tendencies, social reinforcement learning, and the ability to form impressions. However, the fact that social perception and social interaction create different activation patterns in the brain and that inter-brain synchronization occurs during social interaction maintains the complexity of cultural and environmental inputs, thus presenting challenges for advanced cognitive abilities in these areas. Therefore, examining the functional changes created by evolution in the mammalian brain in the context of social neuroscience is highly relevant to AI studies. In this paper, we provide a literature review of studies at the intersection of social neuroscience and AI. The paper contributes to the field by combining topics that are rarely investigated simultaneously.

Keywords: social neuroscience, AI, social interaction, neuroimaging, computational models

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