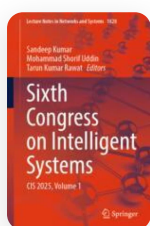


Emerging Role of Artificial Intelligence (AI) in Early Autism Diagnosis: Comprehensive Review

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Abstract

SDG 10 aims to reduce inequalities and ensure no one is left behind. Autism, a complex neurological disorder, is found in around 1/100 children worldwide. Early diagnosis is crucial for effective treatment and intervention. Artificial Intelligence (AI) has emerged as a revolutionary tool in ASD research, enhancing early detection mechanisms and improving symptom management. ML, supervised, unsupervised, semi-supervised, and reinforcement learning algorithms are used for image recognition, language understanding, and speech processing. This paper aims to emphasize the role of AI in

early autism diagnosis and to identify and evaluate various AI-based algorithms used for accurate autism detection. Autism diagnosis is challenging due to the lack of standard medical tests. AI interventions, such as natural language processing, machine learning and deep learning. Can improve early diagnosis by identifying complex patterns and detecting subtle symptoms. However, issues such as algorithm transparency and data privacy must be addressed. With continued research and ethical AI technology, these algorithms can transform early ASD diagnosis, enabling timely intervention and improved outcomes.

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