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A Survey on Autism Spectrum Disorder Recognition Techniques

Amrita Budarapu

G. Narayanamma Institute of Technology & Science (Autonomous), Hyderabad, Telangana India

Dr. Nara Kalyani

G. Narayanamma Institute of Technology & Science (Autonomous), Hyderabad, Telangana India

Abstract

Human beings can express their emotions through various ways, such as facial expression, bodily expressions, or language. Autism Spectrum Disorder (ASD) is a kind of neurological developmental disorder characterized by its reduced ability that affects the social interaction, language (or) behavioral skills of children. This tends to engage in repetitive and stereotypic behaviors. The underlying causes of ASD are still not well understood but an alarming number of children are diagnosed and suffered from this disorder in the world today. Early Intervention of the disorder is the most important factor which plays a key role in treating the kids with ASD. Various techniques which include Image Processing, Speech Recognition, Behavioral Analysis are used in identifying the children with ASD at early stages. Image Processing is used to Identify the presence of Autism through facial images by providing extensive training to the machine learning models. Speech recognition, questionnaires and behavioral therapies are used for diagnosing the disorder and its severity at various levels.

This paper describes the survey of various Autism recognition techniques and their major contributions in identifying and analyzing the severity of the disorder in children, their performance, and the scope of improvement for further research.