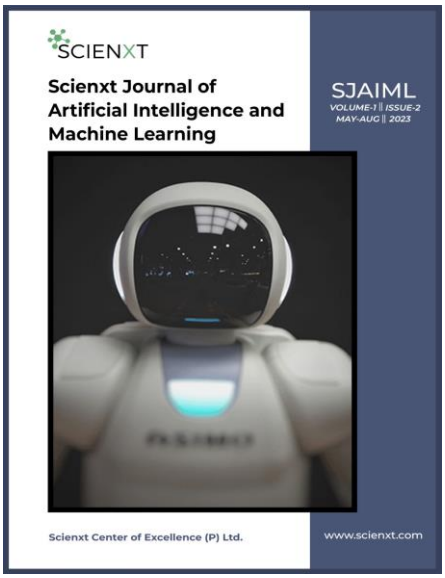

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Towards precise autism identification: machine learning innovations

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Abstract:

This research paper focuses on Autism Spectrum Disorder (ASD) diagnosis, employing various machine learning approaches and methods. ASD diagnosis is traditionally challenging due to its subjectivity and time- consuming nature. Machine learning has emerged as a promising avenue for enhancing the detection and diagnosis of ASD, as it offers the potential to improve diagnostic accuracy and expedite the diagnosis process. Given that ASD diagnosis fundamentally involves classifying individuals into one of two categories, ASD or No-ASD, based on various input features, it can be approached as a classification task in machine learning. In this paper, we delve into the application of diverse classification techniques such as logistic regression and extra tree classifier to achieve heightened accuracy in identifying ASD cases across four distinct datasets, each pertaining to different age groups—toddlers, children, adolescents, and adults.

Keywords:

Autism Spectrum Disorder, machine learning, logistic regression, extra tree classifier, No-ASD.