ADVANCING EARLY AUTISM DETECTION: LEVERAGING MACHINE LEARNING FOR OBJECTIVE AND COMPREHENSIVE ASSESSMENT FROM BEHAVIORAL AND PHYSIOLOGICAL DATA

Dr. B. Srinuvasu Kumar

Veerla Anu Navya Sri

Yarrapothu Bhavishya

Tenneeru Ankammarao

Yalla Avinash

Department of Information Technology,

Seshadri Rao Gudlavalleru Engineering College, Gudlavalleru,

Andhra Pradesh, India

Early detection of Autism Spectrum Disorder (ASD) is crucial for effective intervention and support. This project leverages machine learning to analyze behavioral and physiological data for objective and comprehensive autism detection. Traditional diagnostic methods are subjective, time-consuming, and often rely on parent-reported data, which can introduce biases. This proposed system integrates advanced algorithms, wearable sensors, and video analysis to identify patterns and anomalies associated with ASD. A user-friendly interface provides real-time diagnostic feedback to parents and clinicians, enabling earlier detection and improving diagnostic consistency. Utilizing libraries such as TensorFlow, PyTorch, OpenCV, and scikit-learn, this approach combines modern technology with traditional practices, setting a benchmark for scalable and accurate autism detection systems.

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