



ASD : SCREENING & SUPPORTING TOOLS

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PREFACE

This book aims in providing help for children suffering from autism . Autism is a brain disorder that often makes it hard to communicate with and relate to others. With autism, the different areas of the brain fail to work together. Symptoms almost always start before a child is 3 years old, where the children act differently from those of the same age. These children lack in Social interactions and relationships, verbal and non-verbal communication, Limited interests in activities or play. For this training is given by psychiatrists which is costly ,in the course of training the child may not understand immediately, it might be costlier .

In this work, early intervention for children with autism can be done through an integrated tool comprises image processing, multisensory information (audio and visual stimuli, motor movements). Data for processing is collected by images extracted from videos and sensory stimuli inputs and motor movements. Image processing includes classification of images (hand flapping, aggressive face etc).Data collected through sensory stimuli encloses visual and audio stimuli. Processing audio stimuli contains acoustic analysis of pre-verbal vocalizations. Visual processing includes data collected through an eye tracking device. The Motor analysis data is based on upper limb kinetic motion. Data collected is analyzed with normal children to autistic kid by application of machine learning's classification techniques. This study aims at developing technologically aided detection system upon integration of image processing and multisensory stimuli, motor movements and comparison between them.

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