

**AUTMUSIC**  
**A THERAPEUTIC TOOL TO SCREEN ASD IN CHILDREN**

**Johsual Thiveniya Sathiyamoorthy**

A dissertation submitted in partial fulfillment of the requirement for Bsc(Hons) Business  
Information Systems degree

**Department of Computing & Engineering**

**Informatics Institute of Technology, Sri Lanka**

**in collaboration with**

**University of Westminster, UK**

**2021**

## Abstract

Today the autism rate in Sri Lanka is increasing and 1.07% that is 1 in every 93 children is affected by autism. Among south Asian countries Sri Lanka has been reported with highest prevalence. Many factors affect the behavior of an autistic child and an interaction is needed for the improvement of their behavioral patterns. It is identified that music therapy could play an important role as an intervention method to increase the social, interactive, and communicative skills of the affected children as well as to manage the challenges faced by them.

The lack of platform of aid to raise awareness and give support to the guardians of the autism children is, as Sri Lanka as a nation has failed in terms of leveraging the advancement and latest technology use for autism children. The aim of this research is to identify and analyze the problems faced by the autistic children and their guardians and identifying how screening & diagnosis can be done with emotion API and ASSQ questionnaire and how the challenges such as stress, anxiety, depression can be controlled and improved using music.

Based on the seriousness of the problem, the research and implementation aim to analyze the issues faced by the autism children, guardians and to design and develop and evaluate an IT solution along with use of advanced technologies.

It will further build a conceptual framework which can be incorporated the solution into the music therapy to reduce the challenges faced by the children. Issues from two perspectives; caretakers and children have been considered in this project.

**Keywords—ASD, Facial recognition, Autism spectrum screening questionnaire, Music therapy, Progress analysis**