ASD.AI - Sinhala Dialogue Management Tool to Screen Kids with Autism Spectrum Disorder

ASD.AI

SLIIT

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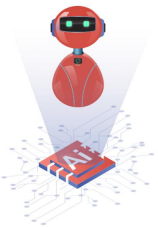


Research Problem

- Approximately 1 in 93 (1.07%) of the children has ASD.
- The general awareness and understanding are lack regarding autistic kids.
- In Sri Lanka, a mandatory culturally sensitive and specific screening of infants and children is limited to the large hospitals in Colombo and other urban areas.
- Parents of autistic children are often left alone with their issues and do not have access to adequate support and knowledge about their child's condition.
- Any intervention or treatment related to autism is more effective the earlier it starts and the more consistent it is applied.
- There is not any automated tool in Sri Lanka to screen kids with Autism Spectrum Disorder.

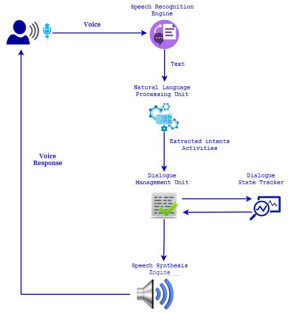
Objectives

- To develop a machine learning-based automated autism screening tool that decrease or remove the need for error-prone and wasteful human involvement in the field
- To eliminate the language barrier in voice assistants by making Sinhala available and allowing the voice assistant to understand and react to in-domain inquiries.
- To Increase availability, process many requests at once, Lower the Cost and Enhance the service's overall productivity

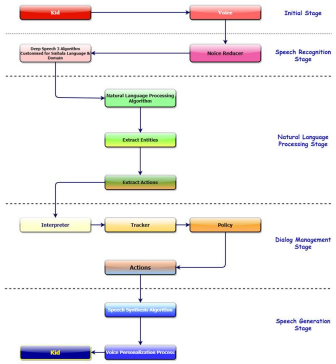
Background & Literature

- Voice assistants have become the most common method of acting as representatives for any business. And, since the dawn of AI, creating a voice assistant that performs flawlessly has been one of the most difficult tasks.
- Sinhala is one of Sri Lanka's official languages and the mother tongue of 74 percent of the country's people.
- ASD is a complicated developmental disease characterized by chronic difficulties with social communication, limited interests, and repetitive conduct.

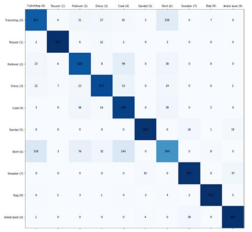
System Architecture



Provided Solution



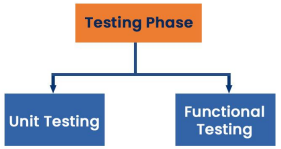
Results and Discussion

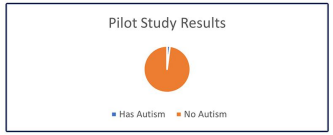


Target Training Sample = N = 20

Training Period = 28 hours

- The system generated an acceptable common Q-tables
- All prediction models were given an id of the suitable activity category, activity or environment according to the input.





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