

## Review: Mass Screening framework for children with dyslexia using IOT and computing analysis

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### Abstract

Dyslexia is a medical disorder due to which children have difficulties in learning and reproducing the learnt concepts. In this context children are mostly considered to be not interested or negligent towards their studies. According to dyslexia association of India 10-15 % of children enrolled in schools suffer from some type of Dyslexia. Awareness on Learning difficulties and detection is a complicated. As detection of LD requires diverse features it requires proper guidance and intervention. The issues with explicit learning difficulties in kids have been a reason for worry to parents and educators. Its challenging for the teachers and educationalists to differentiate students with LD and other students. This paper mainly analysis of the paper titled "Diagnosis of Dyslexia using Computing Analysis". Electroencephalogram (EEG) as a tool is used for understanding of brain process and related functions. Number of factors related to Dyslexia and "Power spectral density" is extracted using Gibson test for brain skills. And to identify differences in brain processing using EEG Technology in kids with dyslexia and non-dyslexic. Data sets are generated classifying Dyslexic and non dyslexic and were analysed using the K-means, Fuzzy and ANN classifiers, then the results obtained from these classifiers differentiate between the three different groups (dyslexic, non-dyslexic and disordered). And the next paper "Spatial Blockchain-based Secure Mass Screening Framework for Children with Dyslexia", this paper was mainly focused in detection of symptoms of dyslexia at an age of 8-11 years, so that children can be assisted with various assisting tools and take technologic support so that children can take part in regular schools. This paper is based on Mobile Edge Computing, cloud computing.

**Keywords:** Dyslexia, Mobile Edge Computing, cloud computing, K-Means, ANN, Fuzzy logic, Electroencephalogram, Gibson test Power spectral density.

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### 1. Introduction

Early diagnosis of Dyslexia is challenging, but it can help in addressing it with various assistive methods. Early diagnosis reduce stress and anxiety in children and also can help in getting exemption with foreign language etc[1]. In this paper two different papers on early diagnosis of dyslexia are

reviewed. Both papers use different technologies for mass screening for dyslexia.

### 2. Literature review #1

Hassanin M. Al-Barhamtoshy[2] proposed framework for diagnosing Dyslexia using computing analysis technique. Gibson test was used as an initial cognitive skill testing tool for determining the students with dyslexia[3] [4]. The severity or intensity of difficulty in learning may differ from

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