

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# BAHRIA UNIVERSITY ISLAMABAD

Dated:

## CERTIFICATE

We accept the work contained in the degree project report titled (Identification of Dyslexic children at early schooling) as a confirmation to the required standard for the partial fulfillment of the degree of MSSE.

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## **Declaration of Authorship**

I hereby declare that this submission is my own work and that is the result of work done during the period of registration. To the best of my knowledge, it contains no unreferenced published material written by another person. None of this work has been submitted for another degree at the Bahria University or any other university.

Part of this thesis appeared in the following conjoint publications, to each of which I have made substantial contribution

- International Journal of Software Engineering and Knowledge Engineering.
- International Journal of Science & Education

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## **Dedication**

This report is dedicated to my father, who taught me that the best kind of knowledge to have is that which is learned for its own sake. Who supported and gave me motivation to complete this project. The report is also dedicated to my mother, who taught that even the largest task can be accomplished if it is done one step at a time.

## **Abstract**

Dyslexia is a learning disability in both reading and writing and dyslexic students need help and extra effort to learn. Technological advancements have made it possible to do screening of dyslexia patients. However, it is important to identify dyslexic students as early as possible since students suffering from dyslexia can compete with their cohorts provided they are detected early and given guidance in a professional manner. Another issue with dyslexia screening is requirement of an expert and a somewhat extraordinary arrangements to conduct the process. In our course of research we have proposed checklist which will help individuals or parents to identify weather their children are dyslexic or not. We have also proposed an automated system which will identify dyslexic children at early schooling and will work as early screening out of dyslexic. We select kindergarten level students and analyze their class-work for identification of dyslexia. This way, we do not require any special arrangements for screening out dyslexic students and automate the screening test such that it becomes part of the day-to-day routine of schools imparting early education.

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# List of Abbreviation

List of abbreviation are as follow :-

ADD Attention Deficit Disorder  
ADHD Attention Deficit Hyper Disorder  
DCD Development Coordination Diorder  
DIS Dyslexia Identifier System  
HDR High Dynamic Range  
HD High Definition  
HMM Hidden Markov Model  
KNN K-Nearest Neighbour  
LBP Local Binary Pattern  
NN Neural Netowork  
OCR Optical Character Recognition  
SVM Support Vector Machine