

VIVEKANAND EDUCATION SOCIETY'S INSTITUTE OF  
TECHNOLOGY

Department of Computer Engineering



## Certificate

This is to certify that *Juhi M. Bansinghani, Sarthak J. Dadhakar, Trena V. Dhingra, Umesh R. Ramchandani* of Fourth Year Computer Engineering studying under the University of Mumbai have satisfactorily completed the project on “**DYSCALCULIA DETECTION USING ARTIFICIAL INTELLIGENCE**” as a part of their coursework of PROJECT-II for Semester-VIII under the guidance of their mentor *Mrs. Sharmila Sengupta* in the year 2018-2019.

Programme Outcomes	Grade
PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2.	

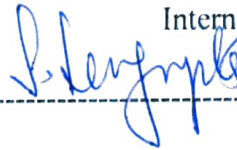
Date: 03/05/19

Project Guide:

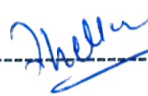
# Project Report Approval For B. E (Computer Engineering)

This project report entitled *Dyscalculia Detection using Artificial Intelligence* by *Juhi M. Bansinghani, Sarthak J. Dadhakar, Trena V. Dhingra* and *Umesh R. Ramchandani* is approved for the degree of *Bachelor of Engineering in Computer Engineering*.

Internal Examiner



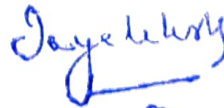
External Examiner



Head of the Department



Principal



PRINCIPAL,

VIVEKANAND EDUCATION SOCIETY'S  
INSTITUTE OF TECHNOLOGY  
HASHU ADVANI MEMORIAL COMPLEX,  
COLLECTOR'S COLONY, CHEMBUR,  
MUMBAI-400 074, INDIA.

Date: 03/05/19

Place: Chembur

## Letter from Nair Hospital



### DEPARTMENT OF PSYCHIATRY B.Y.L. NAIR CH. HOSPITAL & T. N. MEDICAL COLLEGE

Dr. A. L. Nair Road, Mumbai - 400 008.  
Tel. : 23081490-99 Ext. : 630 / 631

Date:- 19/04/2019


To Mrs. Shamita Sengupta

**Subject:** Appreciation letter for the work done on the project titled, "Dyscalculia Detection using Artificial Intelligence."

It was a pleasure for us to have you and your team from Department of Computer Engineering, Vivekanand Education Society's Institute of Technology during the course of this collaborative project between the two institutions. The project team comprised of I, Dr. Alka Subramanyam and Dr. Sonakshi Jyrwa from Department of Psychiatry, B.Y.L. Nair Ch. Hospital, Mumbai and Dr. Nupur Giri, Sharmila Sengupta, Juhi M. Bansinghani, Sarthak J. Dadhakar, Trena V. Dhingra, Umesh R. Ramchandani from the Dept. Of Computer Engineering, Vivekanand Education Society's Institute of Technology, Mumbai.

We are pleased about the successful completion and deployment of the project. Looking forward to future collaborations

Regards,

  
Dr. Alka Subramanyam,  
Associate Professor,  
Dept. of Psychiatry,  
TNMC & B.Y.L. Nair Ch. Hospital,  
Mumbai

**DR. ALKA A. SUBRAMANYAM**  
Reg. No. 2000/02/1358  
Associate Professor  
Department of Psychiatry  
T.N.M.C. & B.Y.L. Nair Ch. Hospital,  
Dr. A. L. Nair Rd., Mumbai Central,  
Mumbai-400 008.





**DEPARTMENT OF PSYCHIATRY**  
**B.Y.L. NAIR CH. HOSPITAL & T. N. MEDICAL COLLEGE**

Dr. A. L. Nair Road, Mumbai - 400 008.

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Date:- 19/04/2019


To Umesh R. Ramchandani

**Subject:** Appreciation letter for the work done on the project titled, "Dyscalculia Detection using Artificial Intelligence."

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Regards,

  
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Associate Professor,  
Dept. of Psychiatry,  
TNMC & B.Y.L. Nair Ch. Hospital,  
Mumbai

**DR. ALKA A. SUBRAMANYAM**  
Reg. No. 2000/02/1358  
Associate Professor  
Department of Psychiatry  
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**DEPARTMENT OF PSYCHIATRY**  
**B.Y.L. NAIR CH. HOSPITAL & T. N. MEDICAL COLLEGE**

Dr. A. L. Nair Road, Mumbai - 400 008  
Tel. : 23081490-99 Ext. : 630 / 631

Date:- 19/04/2019


To Juhi M. Bansinghani

**Subject:** Appreciation letter for the work done on the project titled, "Dyscalculia Detection using Artificial Intelligence."

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TNMC & B.Y.L. Nair Ch. Hospital,  
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Reg. No. 2000/02/1358  
Associate Professor  
Department of Psychiatry  
TNMC & B.Y.L. Nair Ch. Hospital,  
Dr. A. L. Nair Rd., Mumbai Central,  
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## Abstract

A great amount of research is going on in the detection of learning disabilities, but the detection of Dyscalculia remains a tedious and time consuming task even today. Various tests are conducted to detect if the patient has Dyscalculia and each test has to be evaluated manually as the scores alone are not sufficient to determine it. In some cases, Curriculum Based Tests [CBTs] or Wide Range Achievement Tests [WRAT] or both need to be conducted after analysis of the results of the Woodcock Johnson Tests. As a collaborative project between Department of the Psychiatry B.Y.L. Nair Ch. Hospital and Department of Computer Engineering, Vivekanand Education Society's Institute of Technology a system is developed to help improve the detection of Dyscalculia. The Woodcock Johnson Tests of Achievements are conducted by the doctors and the results of these tests determine the learning disability