

# **Mental Health and Well-Being Surveillance, Assessment and Tracking Solution Among Children**

## **A PROJECT REPORT**

*Submitted by,*

Susheeth G	20211ISR0036
Ritish N	20211ISR0047
Vidyashree BN	20211ISR0039
Mithali S Anand	20211ISR0082
Tejashwini BA	20211ISR0040

*Under the guidance of,*

**Dr. Murali Parameswaran**

*in partial fulfillment for the award of the degree of*

**BACHELOR OF TECHNOLOGY**

**IN**

**INFORMATION SCIENCE AND ENGINEERING  
[ARTIFICIAL INTELLIGENCE AND ROBOTICS]**

**At**



**PRESIDENCY UNIVERSITY**

**BENGALURU**

**MAY 2025**

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**GAIN MORE KNOWLEDGE  
REACH GREATER HEIGHTS**

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# PRESIDENCY UNIVERSITY

## SCHOOL OF COMPUTER SCIENCE ENGINEERING

### CERTIFICATE


This is to certify that the Project report “Mental Health and Well-Being Surveillance, Assessment and Tracking Solution Among Children” being submitted by “Susheeth G, Ritish N, Vidyashree BN, Mithali S Anand, Tejashwini BA” bearing roll number(s) “20211ISR0036, 20211ISR0047, 20211ISR0039, 20211ISR0082, 20211ISR0040” in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Information Science and Engineering is a bonafide work carried out under my supervision.

  
**DR. MURALI PARAMESWARAN**

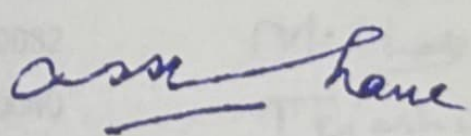
Professor  
PSCS  
Presidency University

  
**DR. ZAFAR ALI KHAN**

Professor & HOD  
PSCS & PSIS  
Presidency University

  
**Dr. MYDHILTNAIR**

Associate Dean  
PSCS  
Presidency University

  
**Prof. (Dr.) MD. SAMEERUDDIN KHAN**

Pro Vice Chancellor - Engineering,  
Dean -PSCS & PSIS  
Presidency University



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#### DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **Mental Health and Well-Being Surveillance, Assessment and Tracking Solution Among Children** in partial fulfillment for the award of Degree of **Bachelor of Technology in Information Science and Engineering**, is a record of our own investigations carried under the guidance of **Dr. Murali Parameswaran, Professor, School of Computer Science Engineering, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

NAME		ROLL.NO	SIGNATURE
SUSHEETH G	-	20211ISR0036	Susheth. G
RITISH N	-	20211ISR0047	Ritish N
VIDYASHREE BN	-	20211ISR0039	Vidyaashree BN
MITHALI S ANAND	-	20211ISR0082	Mithali S
TEJASHWINI BA	-	20211ISR0040	Tejashwini



## ABSTRACT

MindSight is a comprehensive web-based mental health surveillance and self-assessment platform aimed at monitoring the psychological well-being of individuals—particularly children and young adults. This application is grounded in the DASS-21 (Depression, Anxiety, Stress Scales) framework, which comprises 21 scientifically validated self-report questions. The questionnaire is segmented into three categories: 7 items each for evaluating depression, anxiety, and stress. Responses are rated on a scale of 0 (Did not apply to me at all) to 3 (Applied to me very much or most of the time), with cumulative scores interpreted across five severity levels: Normal, Mild, Moderate, Severe, and Extremely Severe.

The core functionality of MindSight is powered by advanced machine learning algorithms. A total of ten models were trained and evaluated using the DASS-21 dataset sourced from Mendeley Data, which contains anonymized psychological assessments from a diverse population. Models implemented include Logistic Regression, Decision Tree, Random Forest, Gradient Boosting, AdaBoost, Stochastic Gradient Descent (SGD), Support Vector Machine (SVM), K-Nearest Neighbors (KNN), Naive Bayes, and XGBoost. Through extensive experimentation and evaluation using metrics such as accuracy, precision, recall, and F1-score, the SVM model was identified as the most effective in predicting mental health severity levels across all three conditions.

The system architecture employs a lightweight Python Flask backend for efficient model inference and API handling, while the frontend is developed using HTML and CSS to ensure accessibility and user engagement. The interface guides users through the questionnaire in a structured and responsive manner. Upon completion, results are presented with visually intuitive, color-coded severity indicators for each of the three mental health dimensions, enabling users to instantly interpret their mental state.

MindSight not only offers an accurate and accessible solution for individual mental health screening but also serves as a potential aid in broader mental health tracking and intervention efforts. It is particularly useful in educational institutions, pediatric mental health programs, and community health surveillance, where early detection and scalable digital tools are essential for timely support and prevention.



## ACKNOWLEDGEMENT

First of all, we indebted to the **GOD ALMIGHTY** for giving me an opportunity to excel in our efforts to complete this project on time.

We express our sincere thanks to our respected dean **Dr. Md. Sameeruddin Khan**, Pro-VC, School of Engineering and Dean, School of Computer Science Engineering & Information Science, Presidency University for getting us permission to undergo the project.

We express our heartfelt gratitude to our beloved Associate Dean **Dr. Mydhili Nair**, School of Computer Science Engineering & Information Science, Presidency University, and **Dr. Zafar Ali Khan**, Head of the Department, School of Computer Science Engineering & Information Science, Presidency University, for rendering timely help in completing this project successfully.

We are greatly indebted to our guide **Dr. Murali Parameswaran**, Professor and Reviewer **Dr. Swati Sharma**, Associate Professor, School of Computer Science Engineering & Information Science, Presidency University for their inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the project work.

We would like to convey our gratitude and heartfelt thanks to the CSE7301 Capstone Project Coordinators **Dr. Sampath A K** and **Mr. Md Zia Ur Rahman**, department Project Coordinators **Dr. Afroz Pasha** and Git hub coordinator **Mr. Muthuraj**.

We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

Susheeth G  
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Vidyashree BN  
Mithali S Anand  
Tejashwini BA