

## INFORMATICS INSTITUTE OF TECHNOLOGY In Collaboration with UNIVERSITY OF WESTMINSTER

## **Detection of Suicidal Thoughts of People via Chatbot**

Product Specification & Prototype Design by Mr. Ravindu Kodithuwakku W1790300 / 20191039

> Supervised by Mr. Bilal Rifas

Submitted in partial fulfilment of the requirements for the BEng (Hons) Software Engineering degree at the University of Westminster.

May 2023

© The copyright for this project and all its associated products resides with Informatics Institute of Technology

## ABSTRACT

Suicide is a serious public health issue that has an impact on millions of people worldwide. To give appropriate treatments and assistance to people at risk of suicide, suicide prevention efforts require the early diagnosis of suicidal ideation. The individual's willingness to share their thoughts and feelings is a limitation of traditional suicide risk assessment techniques like questionnaires and interviews. As a result, cutting-edge technologies like chatbots offer a possible replacement for established techniques for assessing the risk of suicide. Natural language processing (NLP) techniques are used by chatbots, which are computer programs that simulate conversations with human users.

This study suggests creating a chatbot system to identify and recognize suicidal ideation in people using natural language processing (NLP) techniques. Input text from users will be analyzed by the system to look for patterns and linguistic indicators of suicide intent.

The study's findings will offer information about the potential of chatbot systems as a tool for identifying suicidal ideation in people. The suggested method can be used by mental health practitioners to deliver prompt treatments and support to those who are at suicide risk, increasing the results for mental health.

**Keywords:** suicide, suicidal ideation, chatbot, natural language processing, machine learning, mental health, suicide prevention