SCHOOL OF COMPUTING
Faculty of Engineering

Project Proposal Form MCST1043
Sem: 2 Session: 2024/25

SECTION A: Project Information.

Program Name:	**Masters of Science (Data Science)**
Subject Name:	**Project 1 (MCST1043)**
Student Name:	Choong Zi Xuan
Metric Number:	MCS241038
Student Email & Phone:	choongzixuan@graduate.utm.my 018-7836386
Project Title:	Predicting Mental Health Crises via Social Media
Supervisor 1:	
Supervisor 2 / Industry Advisor(if any):	

SECTION B: Project Proposal

Introduction:

According to World Health Organization (WHO), in 2019 have 970 million of people in world face mental health problem. (Mental health, 2019) With increasing in the use of digital communication, social media become a platform where people express their emotion, thoughts and daily life. Thus, social media become a data source to detect people mental health conditions. In this project, aim to use machine learning techniques to evaluate and predict the mental health crises base on social media post.

Problem Background:

Mental health is an important issue and base on WHO every year there have more than 720000 people die by suicide. (Suicide prevention, 2021) Research has shown that people often share their stress, anxiety and depression on social media. (Saeed & Ahmed, 2025) By analyzing the content of the post, it is possible to detect people emotional and mental health conditions. This information can help mental health professional to identify individuals' mental health and give immediate support.

Problem Statement:

Now is the digital age, people use social media to express their feelings and emotional states. However, people not only share positive thinking but also stress and depression. Thus, there is important to analyze social media content to predict mental health crises. A predictive system could help in early detection and prevention the mental health crises.

Aim of the Project:

To develop a machine learning model that can predict the mental health crises based on the post and content shared on social media.

Objectives of the Project:

1. To identify the key feature cause mental health crises.

2. To develop and evaluate predictive models using machine learning techniques.

3. To provide insights for mental health professionals.

Scopes of the Project:

1. Analysis text data for sentiment and emotional tone.

2. Focus on early signs of mental health crises such as depression, anxiety and suicide.

Expected Contribution of the Project:

Provide a machine learning model for early detection of mental health crises. Helping increases awareness of mental health professional awareness and provide support to people who have mental health crises.

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Project Requirements:

Software:	Python
Hardware:	
Technology/Technique/ Methodology/Algorithm:	NLP, sentiment analysis, machine learning model

Type of Project (Focusing on Data Science):

[/]   Data Preparation and Modeling

[/]   Data Analysis and Visualization

[   ]   Business Intelligence and Analytics

[/]   Machine Learning and Prediction

[   ]   Data Science Application in Business Domain

Status of Project:

[/]   New

[   ]   Continued

If continued, what is the previous title?

SECTION C: Declaration

I declare that this project is proposed by:

[/]   Myself

[   ]   Supervisor/Industry Advisor (   )

Student Name: Choong Zi Xuan

17/4/2025

Signature   **Date**

SECTION D: Supervisor Acknowledgement

The Supervisor(s) shall complete this section.

I/We agree to become the supervisor(s) for this student under aforesaid proposed title.

Name of Supervisor 1:

Signature   **Date**

Name of Supervisor 2 (if any):

Signature	**Date**

SECTION E: Evaluation Panel Approval

The Evaluator(s) shall complete this section.

Result:

[   ] FULL APPROVAL   [   ] CONDITIONAL APPROVAL (Major)*

[   ] CONDITIONAL APPROVAL (Minor)   [   ] FAIL*

* Student has to submit new proposal form considering the evaluators' comments.

Comments:

Name of Evaluator 1:

_____

Signature   **Date**

Name of Evaluator 2:

_____

Signature   **Date**

Reference

1. *Mental health*. (2019). Retrieved from World Health Organization (WHO): https://www.who.int/health-topics/mental-health#tab=tab_2

2. Saeed, Q. B., & Ahmed, I. (2025). Early Detection of Mental Health Issues Using Social Media Posts.

3. *Suicide prevention*. (2021). Retrieved from WHO: https://www.who.int/health-topics/suicide#tab=tab_1