

AUTOMATED MENTAL HEALTH MONITORING USING AI

Name - Abhay Sriwastav
Matriculation Number : 102207787

Content

Overview of the Project

Problem Statement

Project Objective

Methodology

Model Architecture

Training the Model

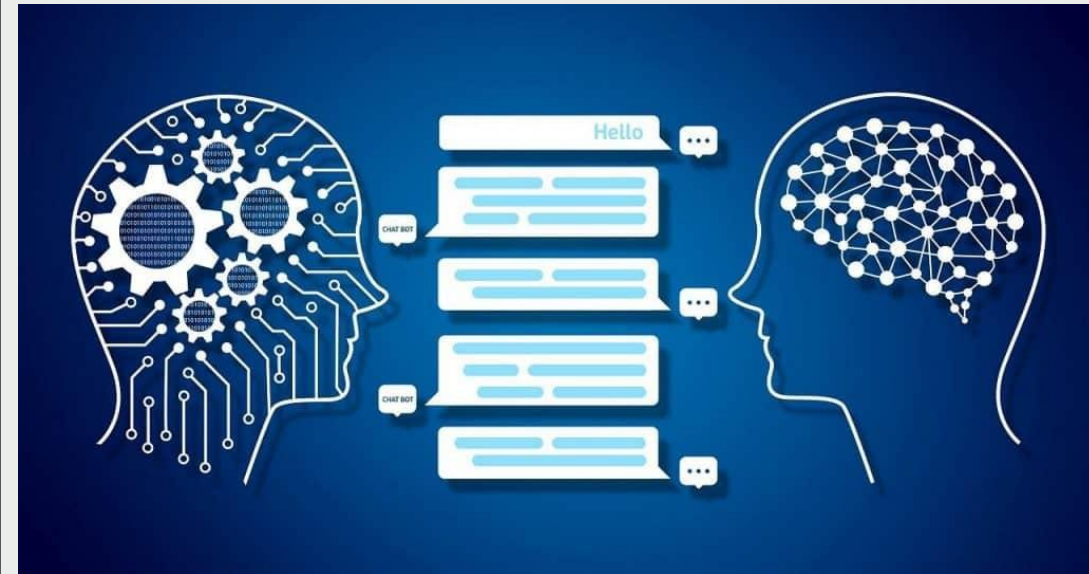
Flow Diagram

Overview of the Project

Purpose: Develop an NLP-based model for mental health assessment.

Motivation: Rising concerns of mental health issues in society.

Solution: A machine learning model to predict a mental health score based on user responses.





Problem Statement

Global increase in mental health issues (depression, anxiety, etc.).

Traditional assessment methods are time-consuming and require expert intervention.

Goal: A fast, automated, and objective tool for self-assessment of mental health.

Project Objectives



Methodology

Collect and preprocess textual data from the dataset.

Build a neural network using TensorFlow Hub's pre-trained embedding layers.

Train the model on labeled emotions data.

Provide users with a score after analysis of their textual responses.

Model Architecture

Embedding Layer: Pre-trained GNews Swivel model from TensorFlow Hub.

Dense Layer: 16 units with ReLU activation for intermediate processing.

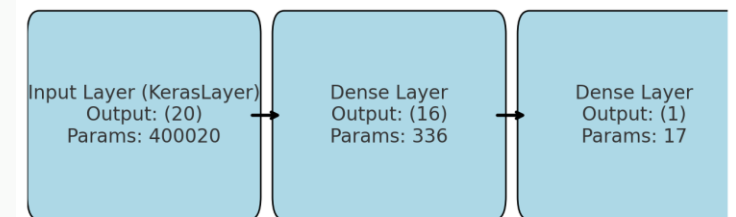
Output Layer: 1 unit with a sigmoid activation function for binary classification.

```
Model: "sequential"
```

Layer (type)	Output Shape	Param #
keras_layer (KerasLayer)	(None, 20)	400020
dense (Dense)	(None, 16)	336
dense_1 (Dense)	(None, 1)	17

```
=====
```

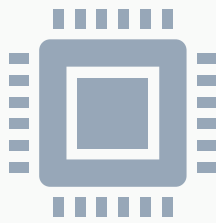
Total params:	400373 (1.53 MB)
Trainable params:	400373 (1.53 MB)
Non-trainable params:	0 (0.00 Byte)



Training the Model



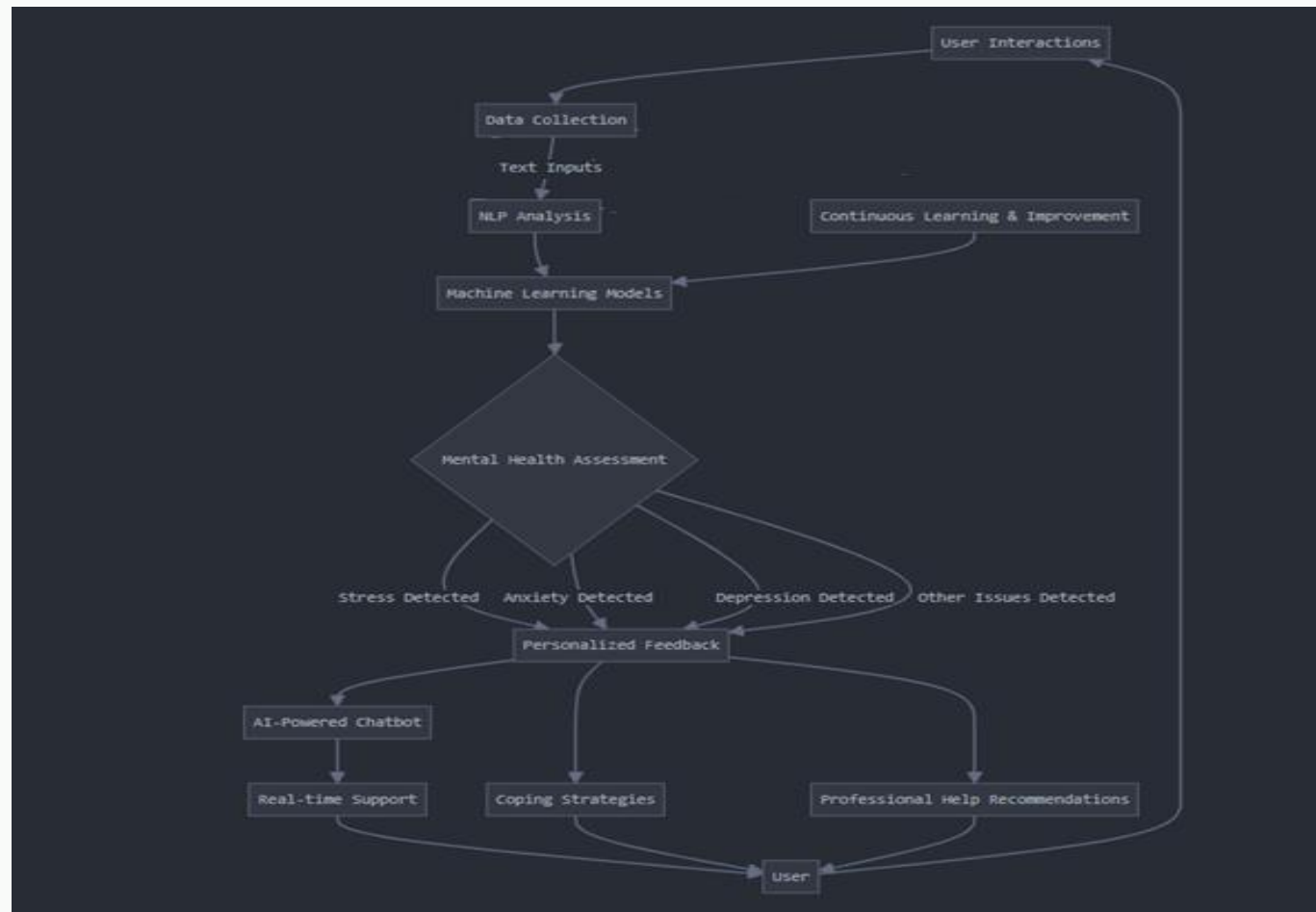
Loss function: Binary
Crossentropy.



Optimizer: Adam.Epochs: 40,
with batch size 512.



Training and validation on
separate datasets.



Flow Diagram

THANK YOU