Configuration Manual

MSc Research Project
MSCAI

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MSc Project Submission Sheet

School of Computing

Student Name: ……Amalachukwu Adaeze Atusiuba……

Student ID: ……23293012……..……

Programme: ……MSCAI…… **Year:** ……2025……..

Module: ……Practicum2…….……

Lecturer: ……SHERESH ZAHOOR…….……

Submission Due Date: ……11/08/2025…….……

Project Title: ……Detecting Depression Over Time: Fusing Emoji and Text Representations with Transformer and CLIP Architectures…….……

Word Count: ……181…… **Page Count:** ……..……

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.
ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

Signature: ……ADAEZE……

Date: ……08/08/2025……

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

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This document outlines all the necessary tools, software, and steps required to operate the system and replicate your results.

1. **System Requirements**: You will need these programming languages and packages installed on your local system.
    A. Operating System: Ubuntu 22.04 LTS, Windows 11 or macOS Ventura
    B. Hardware Requirements
        1. Processor: Quad-core CPU (Intel i7 / Apple M1 or higher)
        2. RAM: Minimum 16 GB
        3. Storage: At least 10 GB of free disk space
        4. GPU (Optional but Recommended): NVIDIA CUDA-enabled GPU (e.g., RTX 3060+) with at least 6 GB VRAM
    C. Python Environment: Python Version: 3.11

2. **Software and Tools**: These are some essential packages. See step 3 for more information on how to get all dependencies.

Package	Version Used	Purpose
python	3.11	Main development language
pandas	2.0.3	Data manipulation
numpy	1.24.4	Numerical operations
emoji	2.8.0	Emoji parsing and sentiment analysis

3. **Installation Instructions**: Using a virtual environment

```
# Clone  repository or download code
git clone https://github.com/yourusername/depression-detection
cd depression-detection

# Create virtual environment
python3 -m venv venv
source venv/bin/activate   # For Windows: venv\Scripts\activate

# Upgrade pip
pip install --upgrade pip

# Install dependencies
pip install -r requirements.txt
```

4. **Running the Project:** How to Run

```
📁 project_folder/
│
├── main.ipynb                          # Main notebook
├── dataset/                            # Folder containing the input dataset
│   └── Mental-Health-Twitter.csv
│   └── depression_dataset_with_relabel.csv  # Relabelled cvs
├── outputs/                            # Folder to store model weights and visual outputs
│   └── best_transformer_clip_fusion_model
├── emoji_sentiment_data.csv            # Emoji sentiment lexicon
├── requirements.txt                    # Dependency list
└── README.md                           # Optional description
```

A. Launch the Notebook
B. Locate and open main.ipynb
C. Execute the notebook cell by cell, from top to bottom