**Face Emotion Recognition ML Project Report**

**Abstract**

This project focuses on the development of a Face Emotion Recognition system using Machine Learning. The system includes a web-based graphical user interface (GUI) for user interaction and utilizes a Machine Learning model for emotion detection. The data collected from the system is stored in a CSV format for further analysis.

**1. Introduction**

The project aims to enhance human-computer interaction by recognizing facial expressions and associating them with specific emotions. Emotion recognition has various applications, including human-computer interaction, mental health monitoring, and user experience customization.

**Objectives**

- Develop a Face Emotion Recognition system.

- Create a user-friendly web-based GUI.

- Implement a Machine Learning model for emotion detection.

- Store data in a CSV format for analysis.

**2. Methodology**

Data Collection

The dataset used for training and testing the model is [provide details about the dataset]. The dataset includes labeled facial expressions associated with specific emotions.

Model Training

We employed a [mention the ML model architecture, e.g., Convolutional Neural Network (CNN)] for training the Face Emotion Recognition model. The model was trained on [mention the training parameters, such as epochs, learning rate, etc.].

GUI Development

The web-based GUI was developed using [mention the technology or framework, e.g., Flask, Django]. The GUI allows users to interact with the Face Emotion Recognition system, providing real-time feedback on detected emotions.

**3. Results**

Model Performance

The trained model achieved an accuracy of [mention accuracy] on the test dataset. Performance metrics, such as precision, recall, and F1 score, were also evaluated.

GUI Demonstration

**4. Data Storage**

The collected data is stored in a CSV format for future analysis. The CSV file includes columns for facial features and corresponding emotion labels.

**5. Conclusion**

Summarize the key findings and achievements of the project. Highlight the impact and potential applications of the developed system.