

AIDI-1002-01-AI ALGORITHM I

PROJECT-SOW-V1: Human Facial/Expression Recognition

Project Team

Student_ID	Name	Project Role
100820114	Deep Mehta	ALL
100845961	Swati Pal	ALL

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1.1 INTRODUCTION

Facial Expressions plays an important role in interpersonal communication. Facial expression is a non-verbal scientific gesture which gets expressed in our face as per our emotions. Automatic recognition of facial expression plays an important role in artificial intelligence and robotics and thus it is a need of the generation.

1.2 OBJECTIVE OF THE REQUIREMENTS

The objective of this project is to develop Automatic Facial Expression Recognition System which can take human facial images containing some expression as input and recognize and classify it into different expression class such as,

- Happy
- Sad
- Angry
- Confused
- Scared
- Surprised

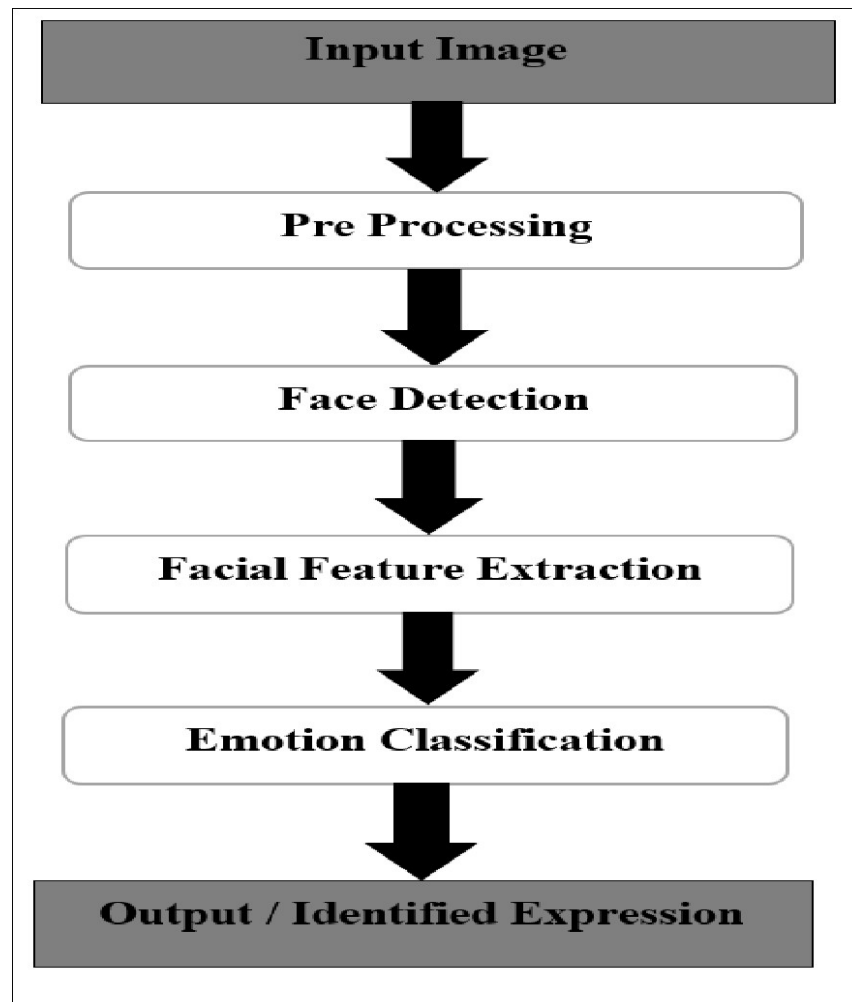
1.3 PROBLEM STATEMENT

Through facial emotion recognition, we are able to measure the effects that content and services have on the audience/users through an easy and low-cost procedure. For example, retailers may use these metrics to evaluate customer interest. Healthcare providers can provide better service by using additional information about patients' emotional state during treatment. Entertainment producers can monitor audience engagement in events to consistently create desired content.

1.4 DETAILED REQUIREMENTS

Facial Expression Recognition System, this can take a person facial images including their expression and emotion as input from user and recognize and do classification into different expression. Numerous Projects are already there related to this subject, but our motivation towards this will not only be to develop an Automatic Facial Expression Recognition System but also to improve accuracy compared to other available systems.

Overall processes of our project:



1.4.1 TASKS, ACTIVITIES, DELIVERABLES AND MILESTONES (WBS)

MILESTONE	ACTIVITIES	TASKS	DELIVERABLE DATE	OWNER	STATUS
REQUIREMENT ANALYSIS	ProjectSetup	GitHub Link	11 Oct,2021	Deep M Swati P	Done
	SOW Creation	Overall layout and prototype building/Data Flow Diagram	25 Oct,2021	Deep M Swati P	Done
	Technical Architecture / Code Review	NA	29 Oct,2021	Deep M Swati P	Not Started
	New Enhancements feasibility analysis	NA	1 Nov,2021	Deep M Swati P	Not Started
DATASET	Analyse Dataset	Importing dataset from Kaggle or from different sources.	3 Nov,2021	Deep M Swati P	Not Started
	Clean Dataset	Training Dataset Testing Dataset	10 Nov 2021	Deep M Swati P	Not Started
DEVELOPMENT	Start	-Develop Data Pre-processing Pipeline -Prototype Algorithm -Develop model(s)/architecture	20 Nov,2021	Deep M Swati P	Not Started
	Middle	-Train Model Architecture -Evaluate Model Architecture -Refine Model Architecture	20 Nov,2021	Deep M Swati P	Not Started
	End	Create Application	25 Nov,2021	Deep M Swati P	Not Started

INITIAL UAT	Service	NA	27 Nov,2021	Deep M Swati P	Not Started
	Integration Test	NA	27 Nov,2021	Deep M Swati P	Not Started
BUG RESOLUTION PHASE (OPTIONAL)	UI		02 Dec,2021	Deep M Swati P	Not Started
	Service		02 Dec,2021	Deep M Swati P	Not Started
FINAL UAT	Overall	NA	05 Dec,2021	Deep M Swati P	Not Started
PROJECT DELIVERY			07 Dec,2021	Deep M Swati P	Not Started

1.5 TECHNICAL AND OPERATIONAL ENVIRONMENT

- GIT
- Jupyter Notebook / Google Colab /PyCharm
- Anaconda
- Spyder
- Python
- OpenCV
- Pandas
- Numpy

1.6 ACCEPTANCE CRITERIA

- Comparing different output samples and checking accuracy level

1.7 PROJECT MANAGEMENT CONTROL PROCEDURES

- Daily 15 minutes' standup call starting from 24 October,2021 until project delivery date
- Weekly update to the professor on the progress until project delivery date
- Fortnightly internal meeting to track the project progress until project delivery date

1.8 CHANGE MANAGEMENT PROCESS

- Any changes to SOW shall be discussed within the team for its feasibility before seeking the professor's approval
- Any agreed changes within the team shall not be made in SOW unless approved by the professor.

Authorization:

This scope has been authorized and approved.

Date and Signature