Analyzing Grammatical Facial Expressions

Milestone: Final Project Proposal

Group 9

Saharsh Desai

Vishal Bothra

857-376-8566 (Tel of Saharsh Desai)

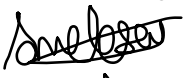
857-269-5186(Tel of Vishal Bothra)

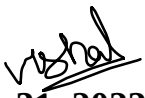
desai.sah@northeastern.edu

bothra.v@northeastern.edu

Percentage of Effort Contributed by Student 1: 50

Percentage of Effort Contributed by Student 2: 50

Signature of Student 1: 

Signature of Student 2: 

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Project Proposal

IE 7275: Data Mining in Engineering

Problem Setting:
Facial expressions are highly indicative of nonverbal communication cues that play crucial role in interpersonal relations. Primarily we will be focusing on developing a recommender system for playing music based on the mood of the user by comprehending their facial expressions. Challenges that can be faced are capturing the face of the user accurately to predict their mood.

Problem definition:
The goal is to create a recommendation system for popular music streaming platforms like Spotify based on not only user history but also their mood. To do so we will first recognize the mood and classify it into 9 target classes from a dataset generated by using Microsoft Kinect to obtain an image of each frame, identified by a timestamp.

Data Sources:
UCI machine learning repository:
This dataset supports the development of models that make possible to interpret Grammatical Facial Expressions from Brazilian Sign Language (Libras).This dataset was already used in the experiments described in Freitas et al in 2014.
Link: https://archive-beta.ics.uci.edu/ml/datasets/grammatical+facial+expressions

Data Description:

Datapoints files: Coordinates x and y are given in pixels. Coordinates z are given in millimeters.

Feature (x, y, z)	Description	Number of Rows
0-7	left eye	27965
8-15	right eye	27965
16-25	left eyebrow	27965
26-35	right eyebrow	27965
36-47	nose	27965
48-67	mouth	27965
68-86	face contour	27965
87	left iris	27965
88	right iris	27965
89	nose tip	27965
90-94	line above left eyebrow	27965
95-99	line above right eyebrow	27965