**Brief about our Project work**

**Facial Action Coding System :** The Facial Action Coding System (FACS) is a standardized method for identifying and categorizing facial movements based on specific muscle actions called "action units" (AUs).

**Action Units (AUs):** An action unit (AU) is a discrete facial muscle movement or combination codified within the Facial Action Coding System (FACS), providing a precise method to analyze facial expressions. Each AU corresponds to a specific muscle or group of muscles, allowing for detailed interpretation of emotional states and non-verbal communication cues.

**Main Action Units**

| **Action Unit** | **Description** | **Example** |
| --- | --- | --- |
| 1 | Inner Brow Raiser | AU1 FACS |
| 2 | Outer Brow Raiser (unilateral, right side) | AU2 right only FACS |
| 4 | Brow Lowerer | au4 brow lowerer |
| 5 | Upper Lid Raiser | AU5 FACS |
| 6 | Cheek Raiser | AU6 cheek raiser |
| 7 | Lid Tightener | AU7 lid tightener |
| 9 (also shows slight AU4 and AU10) | Nose Wrinkler | AU9 with 4+10 |
| 10 (also shows slight AU25) | Upper Lip Raiser | AU10 with 25 |
| 11 | Nasolabial Deepener | AU11 - nasolabial deepener |
| 12 | Lip Corner Puller | AU12 |
| 13 | Cheek Puffer | AU13 cheek puffer |
| 14 | Dimpler | AU14 dimpler |
| 15 | Lip Corner Depressor | AU15 FACS |
| 16 (with AU25) | Lower Lip Depressor | AU16 with 25 |
| 17 | Chin Raiser | AU17 FACS guide |
| 18 (with slight AU22 and AU25) | Lip Puckerer | AU18 with 22A and 25A |
| 20 | Lip stretcher | AU20 lip stretcher |
| 22 (with AU25) | Lip Funneler | AU22 with 25 FACS |
| 23 | Lip Tightener | AU23 lip tightener |
| 24 | Lip Pressor | AU24 image FACS guide |
| 25 | Lips part | AU25 lips part |
| 26 (with AU25) | Jaw Drop | AU26 with 25 FACS affectiva |
| 27 | Mouth Stretch | AU27 mouth stretcher |
| 28 (with AU26) | Lip Suck | AU28 with 26 FACS affectiva |
| 41 | Lid droop | AU41 lid droop |
| 42 | Slit | AU42 slit |
| 43 | Eyes Closed | AU43 eyes closed |
| 44 | Squint | AU44 squint |
| 45 | Blink | AU45 blink |
| 46 | Wink | AU46 wink |

**Some More Examples**

**AU:** Action Unit

**Self-reported emotion:** The emotion reported by the subject

**Micro Expression Name:** Name of the micro-expression

|  |  |  |
| --- | --- | --- |
| **AU** | **Description** | **Example** |
| 4 | Brow Lowerer | au4 brow lowerer |
| 6 | Cheek Raiser | AU6 cheek raiser |
| 7 | Lid Tightener | AU7 lid tightener |

|  |  |  |
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| **AU** | **Self-reported emotion** | **Micro Expression Name** |
| 4+6+7 | disgust | Brow\_Lowerer\_Cheek\_Raiser\_Lid\_Tightener\_Disgust |

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| **AU** | **Description** | **Example** |
| 12 | Lip Corner Puller | AU12 |
| 24 | Lip Pressor | AU24 image FACS guide |

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| --- | --- | --- |
| **AU** | **Self-reported emotion** | **Micro Expression Name** |
| 12+24 | happiness | Lip\_Corner\_Puller\_Lip\_Pressor\_Happiness |

|  |  |  |
| --- | --- | --- |
| **AU** | **Self-reported emotion** | **Micro Expression Name** |
| 9 | disgust | Nose\_Wrinkler\_Disgust |

|  |  |  |
| --- | --- | --- |
| **AU** | **Description** | **Example** |
| 9 | Nose Wrinkler | AU9 with 4+10 |

|  |  |  |
| --- | --- | --- |
| **AU** | **Self-reported emotion** | **Micro Expression Name** |
| 12 | happiness | Lip\_Corner\_Puller\_Happiness |

|  |  |  |
| --- | --- | --- |
| **AU** | **Description** | **Example** |
| 12 | Lip Corner Puller | AU12 |

|  |  |  |
| --- | --- | --- |
| **AU** | **Self-reported emotion** | **Micro Expression Name** |
| 4+45 | surprise | Brow\_Lowerer\_Blink\_Surprise |

|  |  |  |
| --- | --- | --- |
| **AU** | **Description** | **Example** |
| 4 | Brow Lowerer | au4 brow lowerer |
| 45 | Blink | AU45 blink |