**Model Development Phase Template**

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| Date | 19 June 2025 |
| Team ID | SWTID1749712812 |
| Project Title | Unlocking Silent Signals: Decoding Body Language with Mediapipe |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

Below is the list of selected features used for training the model. Each feature is extracted using Mediapipe and chosen based on its relevance to body language interpretation.

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| --- | --- | --- | --- |
| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| landmark\_x\_nose | X-coordinate of the nose landmark | Yes | Helps in identifying head orientation and facial symmetry |
| |  | | --- | | landmark\_y\_nose |  |  | | --- | |  | | Y-coordinate of the nose landmark | Yes | |  | | --- | |  |  |  | | --- | | Useful for determining vertical facial movement. | |
| landmark\_x\_left\_shoulder | X-coordinate of the left shoulder landmark | Yes | Key to identifying arm and upper body gestures. |
| landmark\_y\_left\_shoulder | Y-coordinate of the left shoulder landmark | Yes | Important for detecting raised arms or slouching posture. |
| landmark\_x\_right\_shoulder | X-coordinate of the right shoulder | Yes | Enables symmetry analysis for gestures like victory pose. |

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| --- | --- | --- | --- |
| landmark\_y\_right\_shoulder | Y-coordinate of the right shoulder | Yes | Supports movement tracking during gesture transitions. |
| landmark\_x\_left\_elbow | X-coordinate of the left elbow | Yes | |  | | --- | |  |  |  | | --- | | Indicates arm angle and movement range. | |
| landmark\_y\_left\_elbow | Y-coordinate of the left elbow | Yes | Combined with shoulder data to identify gestures like fighting pose. |
| landmark\_x\_right\_elbow | X-coordinate of the right elbow | Yes | Enhances arm movement recognition, especially in symmetrical gestures. |
| landmark\_y\_right\_elbow | Y-coordinate of the right elbow | Yes | Crucial for motion-based classification tasks. |
| emotion\_label | Label for gesture/emotion (e.g., Happy, Sad, Angry, Victory) | Yes | Target variable for classification. |