

### Model Development Phase

|               |   |
|---------------|---|
| Date          | 23 July 2025  |
|               |   |
| ProjectName   | Machine Learning Approach for Employee Performance Prediction |
| Maximum Marks |   |

#### Feature Selection Report:

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

| Feature    | Description                    | Selected (Yes/No) | Reasoning  |
|------------|--------------------------------|-------------------|--|
| Month      | Month of the year              | No                | For predicting the performance, month is not required. |
| quarter    | specific time period of a year | Yes               | Indicates the overall performance in a quarter         |
| department | Type of work                   | Yes               | Defines the type of work done by the employee          |
| day        | day of the week                | Yes               | affects the score of the model                         |

| Feature               | Description  | Selected (Yes/No) | Reasoning  |
|-----------------------|--|-------------------|--|
| Team                  | Team number  | Yes               | affecting the score of the model   |
| Targeted productivity | Expected productivity from the employee            | Yes               | major factor for reflecting employee's achievability                             |
| SMV                   | Standard Minute Value for particular work          | Yes               | Fundamental for assessing the productivity of employee                           |
| Over_time             | additional work time                               | Yes               | relevant for assessing work done   |
| Incentive             | Amount paid to the employee                        | Yes               | incentive can impact the quality of work   |
| idle_men              | number of men not working during work time         | No                | Mostly contain Null values   |
| idle_time             | period during which a employee remain unproductive | No                | Mostly contain Null values   |
| No.of style change    | number of styles changed during a shift            | Yes               | Can negatively impact the productivity.  |
| No.of workers         | number of workers allotted on a task               | Yes               | highly correlated to the target variable   |
| Actual productivity   | Performance Outcome                                | Yes               | The target variable for predictive modeling is essential for the project's goal. |