**Model Development Phase Template**

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| Date | 7 July 2024 |
| Team ID | 740064 |
| Project Title | Trip-Based Modelling of Fuel Consumption in Modern Fleet Vehicles Using Machine Learning |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

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.

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| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| Distance | The distance covered by a vehicle(km) | Yes | Major contributor to the fuel consmption. |
| Speed | The range/speed of vehicle (km/h) | Yes | Influencing engine efficiency and driving behavior. |
| Temperature\_inside | The temperature inside the vehicle(c) | Yes | Affects fuel consumption by impacting system usage, which in turn influences overall energy expenditure and efficiency in fleet vehicles. |
| Temperature\_  outside | The outside temperature(c) | Yes | Affects fuel consumption by influencing engine efficiency, air density, and the need for heating or cooling. |
| AC | Air conditioning | Yes | An important factor in fuel consumption as it adds extra load to the engine |
| Rain | On Rainfall weather | Yes | Impacts fuel economy by lowering tire traction, and raising rolling resistance. |
| Sun | On Sunny weather | Yes | Impact on fuel consumption since it increases the need for air cooling, which strains the engine more and reduces fuel efficiency. |
| E10 | Gasoline type | Yes | It alters energy density and combustion characteristics. |
| SP98 | Super Plus 98 | Yes | Affects fuel consumption by providing higher octane levels, potentially improving engine performance and efficiency |