**Model Development Phase Template**

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| --- | --- |
| Date | 15 July 2024 |
| Team ID | 740684 |
| Project Title | Space X Falcon 9 First Stage Landing predictor |
| 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** |
| FlightNum  ber | Sequential number of the flight | No | For predicting the landing success, a FlightNumber is not required |
| Date | Date of the flight | No | Temporal data is not directly predictive of landing success |
| BoosterVer sion | The version of the Falcon 9 booster used for the launch | No | Not included due to focus on other features |

|  |  |  |  |
| --- | --- | --- | --- |
| PayloadMa  ss | The weight of the payload | Yes | Heavier payloads might affect the landing success |
| Orbit | The orbit in which the payload is to be placed | Yes | The target orbit can impact the trajectory and landing conditions |
| LaunchSite | The specific locat ion from which the rocket was launched | Yes | Different launch sites have varying success rates due to geographical factors |
| Flights | Number of  flights the booster has been used in | Yes | Boosters with more flights may have different wear and performance levels |
| GridFins | Indicates if the rocket had grid fins | Yes | Grid fins can improve the control and success of the landing |
| Legs | Indicates if the rocket had landing legs | Yes | Landing legs are crucial for a successful landing |
| Reused | Indicates if the booster was reused | No | Not included due to focus on other features |
| Block | Block number of the rocket | Yes | Newer blocks may have more successful landings |
| ReusedCou  nt | Number of times the booster has been reused | Yes | Reused boosters may show patterns in success rates |
| Serial | Serial number of the booster | No | Used for identification, not predictive |
| Longitude | Longitude of the launch site | Yes | Geographical factor that might influence the success rate |
| Latitude | Latitude of the launch site | Yes | Geographical factor that might influence the success rate |
| LandingPa  d | The landing pad used for the landing | No | Not included due to focus on other geographical features |
| Class | Indicates whether the landing was a success or not | Yes | Target variable for the prediction model |