Model Development Phase Template

Date	15 July 2024
Team ID	740080
Project Title	Flight Delay Prediction 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.

Feature	Description	Selected (Yes/No)	Reasoning
YEAR	Year of the flight	No	Year alone might not provide relevant information for predicting delays.
QUARTER	Quarter	Yes	Quarter of the year the flight is scheduled
MONTH	Month of the flight	**Yes**	Certain months may have higher traffic or weather-related delays.
DAY_OF_MONTH	Day of the month the flight is scheduled	**Yes**	Specific days in the month might have patterns in delays ,such as holidays.

DAY_OF_WEEK	Day of the week the flight scheduled	**Yes**	Certain days might have higher traffic affecting delays.
UNIQUE_CARRIER	Airline operating the flight	**Yes**	Different airlines may have different patterns in delays.
TAIL_NUM	Unique identifier for the aircraft	**No**	Specific aircraft identifier are not typically useful for predicting delays.
FL_NUM	Unique identifier for each flight	**No**	For predicting delays,a flight number is not required.
ORIGIN_AIRPORT_ID	Id of the origin airport	**Yes**	Helps identify delays associated with specific airports.
ORIGIN	Origin airport code	**Yes**	Similar to airport ID, useful for understanding origin-specific delays
DEST_AIRPORT_ID	ID of the destination airport	**Yes**	Helps identify delays associated with specific destination airports.
DEST	Destination airport code	**Yes**	Similar to airport ID,useful for understanding destination-specific delays
CRS_DEP_TIME	Scheduled departure time(CRS)	**Yes**	Departure time can influence delay probability due to peak hours.

DEP_TIME	Scheduled departure time of the flight	Yes	Departure time can influence delay probability due to peak hours
DEP_DELAY	Actual departure delay in minutes	Yes	Key feature indicating the actual delay time of the flight
DEP_DEL15	Indicator for 15-minute departure delay(1 if true)	Yes	Useful for categorizing flights that are significantly delayed