

### Question 1

In your own data set, is the task supervised / or unsupervised learning? Is it classification or regression? Provide the target variables and corresponding loss functions

**Answer:** The Data set tasks are supervised

Date\_account\_created:  
Timestamp\_first\_active  
date\_account\_created  
Date\_first\_booking  
Signup\_method  
Sign\_up  
Affiliate\_channel  
Affiliate\_provider  
First\_affiliate\_tracked  
Signup\_app  
First\_browser  
Country\_destination  
User\_id  
Action\_type  
Action\_detail  
Device\_type

Above are the features that are important which will help to understand the user's next booking.

Question 2: What is your strategy to split your total train data when you are training models? In your setup, how many models you will have eventually? How can you use these trained models to predict for new input?

**Answer:** The Dataset can be separated in 3 sections which are as follows:

1. Training dataset: The training data set in Machine Learning is the actual dataset used to train the model for performing various actions
2. Test dataset: A test dataset is a dataset that is independent of the training dataset, but that follows the same probability distribution as the training dataset
3. Validation dataset: A set of examples used to tune the parameters of a classifier, for example to choose the number of hidden units in a neural network

We could give same information parameter as we did beforehand with highlights required to prepare model and result can be anticipated.

Question 3: imbalanced data set in your own data set, if it is the classification task, please analyze the ratio between two classes (1 and 0)? If the ratio is very imbalanced (imbalanced data means the amount of 1 or 0 is extremely small comparing the other class), what is the possible methodologies to train models?

**Answer:** In imbalanced data set we can analyze data with some of the different techniques

- Using Right evaluation metrics
- Resampling Dataset
- Using K-Fold Cross validation
- Ensemble Different resampled data
- Resample with different ratios
- Cluster the abundant class