**Before run a code**

**R**

* Before running of r file first we need to install the LightGBM package in R. Follow these instructions to install lGBM package based on your OS <https://lightgbm.readthedocs.io/en/latest/Installation-Guide.html#windows>

**Deploy of model**

To deploy a machine learning model we need few resources like pickle and Flask in python.

In R we can do using Plumber which converts the r code into web API.

**Python**

First we train the model later using pickle we serialize.

Import pickle

Import lightgbm as lgb

#Training data

lgb\_train=lgb.Dataset(X\_train,label=Y\_train)

#Validation data

lgb\_valid=lgb.Dataset(X\_test,label=Y\_test)

params={'boosting\_type': 'gbdt',

'max\_depth' : -1,

'objective': 'binary',

'boost\_from\_average':False,

'nthread': 20,

'metric':'auc',

'num\_leaves': 50,

'learning\_rate': 0.01,

'max\_bin': 100,

'subsample\_for\_bin': 100,

'subsample': 1,

'subsample\_freq': 1,

'colsample\_bytree': 0.8,

'bagging\_fraction':0.5,

'bagging\_freq':5,

'feature\_fraction':0.08,

'min\_split\_gain': 0.45,

'min\_child\_weight': 1,

'min\_child\_samples': 5,

'is\_unbalance':True,

}

num\_rounds=20000

lgbm= lgb.train(params,lgb\_train,num\_rounds,valid\_sets=[lgb\_train,lgb\_valid],verbose\_eval=1000,early\_stopping\_rounds = 5000)

With open(“lgbm.pkl”,”wb”) as handle:

Pickle.dump(lgbm,handle,pickle.HIGHEST\_PROTOCAL)

#After we deserialize

With open(“lgbm.pkl”,”rb”) as handle:

lgbm=pickle.loadcandle)

Lgbm\_pred=lgbm.predict(X\_test)

**Deploy R**

#probability predictions

Install.packages(“plumber”)

Library(plumber)

Fin<- plumb(“file\_loc.R”)

Fin$run()

Here this will open web browser which runs on the default port number we can set the port number if we need.