modelcv= xgb.cv(xgbparams,dtrain,early\_stopping\_rounds = 10,

nfold = 5, nrounds=15)

model1 = xgboost(data=dtrain,

params = param)

impmatrix = xgb.importance(feature\_names = colnames(traint %>% select(-trip\_duration)), model = model1)

impmatrix %>%

ggplot(aes(reorder(Feature, Gain, FUN = max), Gain, fill = Feature)) +

geom\_col() +

coord\_flip() +

theme(legend.position = "none") +

labs(x = "Features", y = "Importance")

options(scipen = 999)

pred1 =predict(model1,dtest)

pred <- data.frame(taxitest$id,trip\_duration = pred1)

pred %>% write\_csv('taxisubmit.csv')

options(scipen = 999)

taxisol = data.frame(id = taxitest$id,trip\_duration =pred1)

taxisubmissi = data.frame(id = taxitest$id,trip\_duration = pred,row.names = F)

write.csv(taxisol,"taxisol7.csv",row.names = F)

model2 = xgb.train(params = param,data = dtrain,

print\_every\_n = 5,

watchlist = watchlist,

nrounds = 60)

modelcv= xgb.cv(xgbparams,dtrain,early\_stopping\_rounds = 10,

nfold = 5, nrounds=15)

xgbimp = xgb.importance(names(traint[ ,-5]),model2)

ggplot(xgbimp,aes(reorder(Feature,Gain,FUN = max),Gain,fill = Feature)) +

geom\_col() +

coord\_flip() +

theme(legend.position = "none")

pred = exp(predict(model2,dtest)) - 1

submiss = data.frame(id = taxitest$id,trip\_duration = pred)

write.csv(submiss,"txxgb.csv",row.names=F)