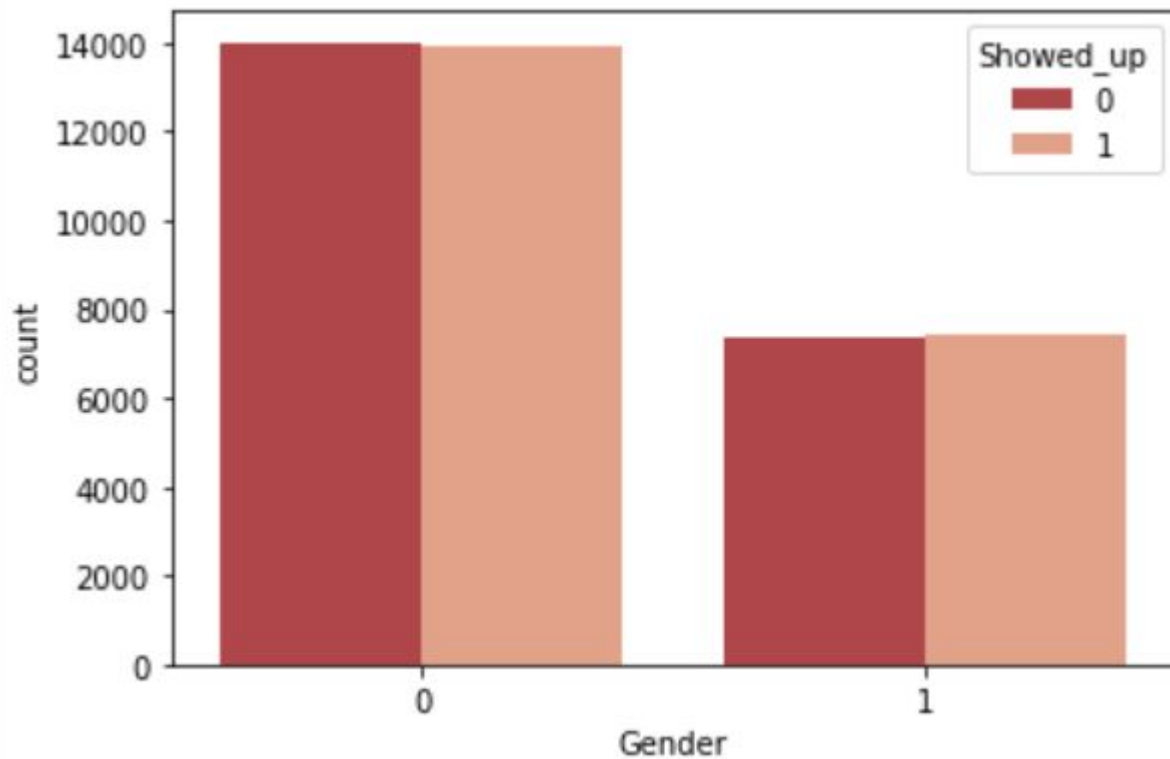
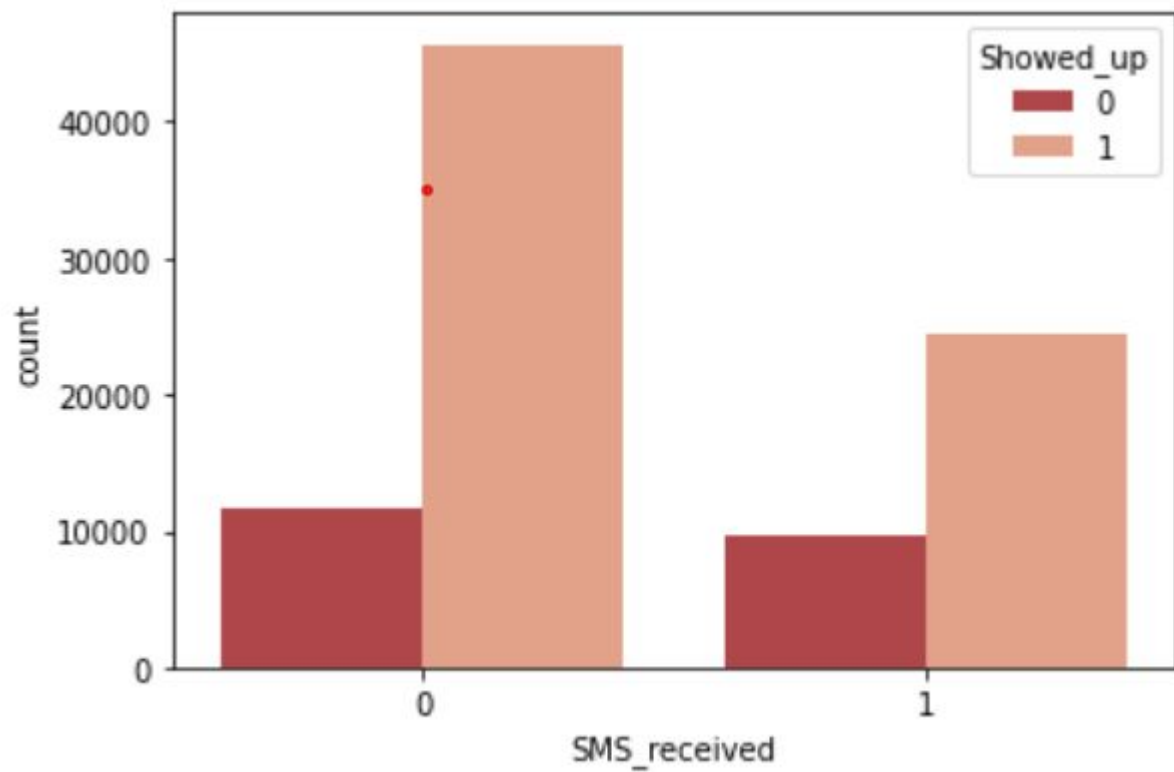
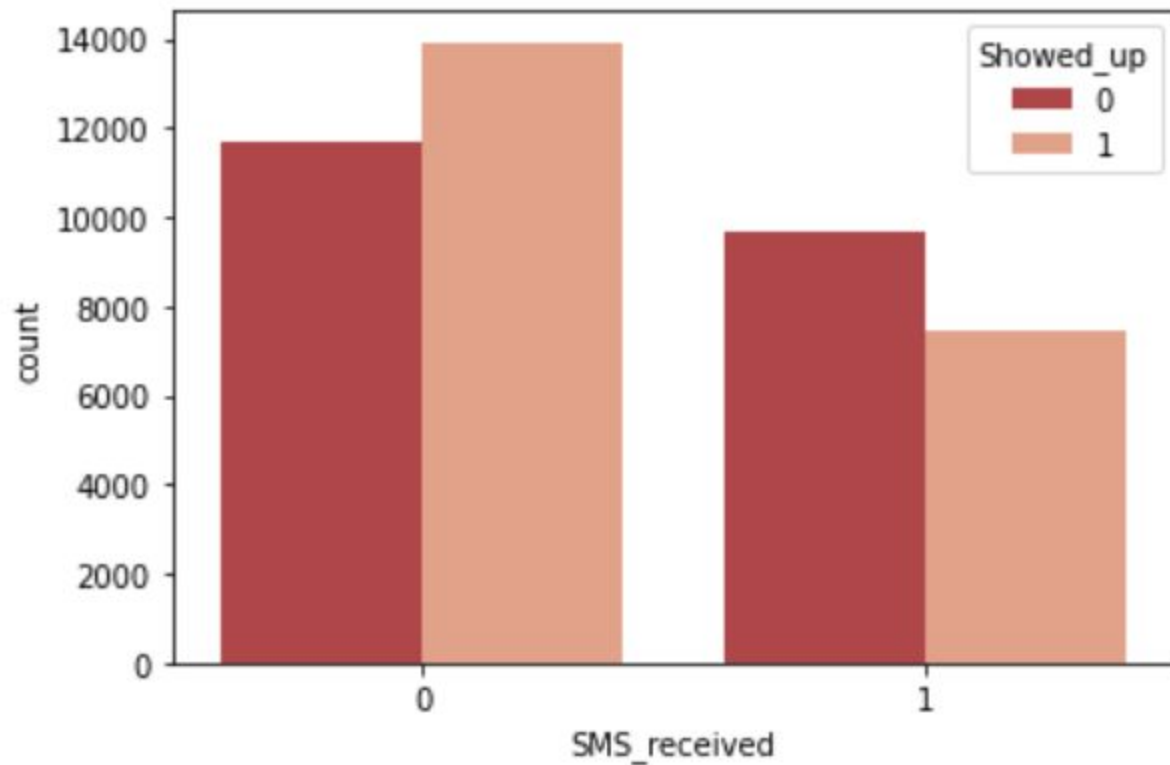


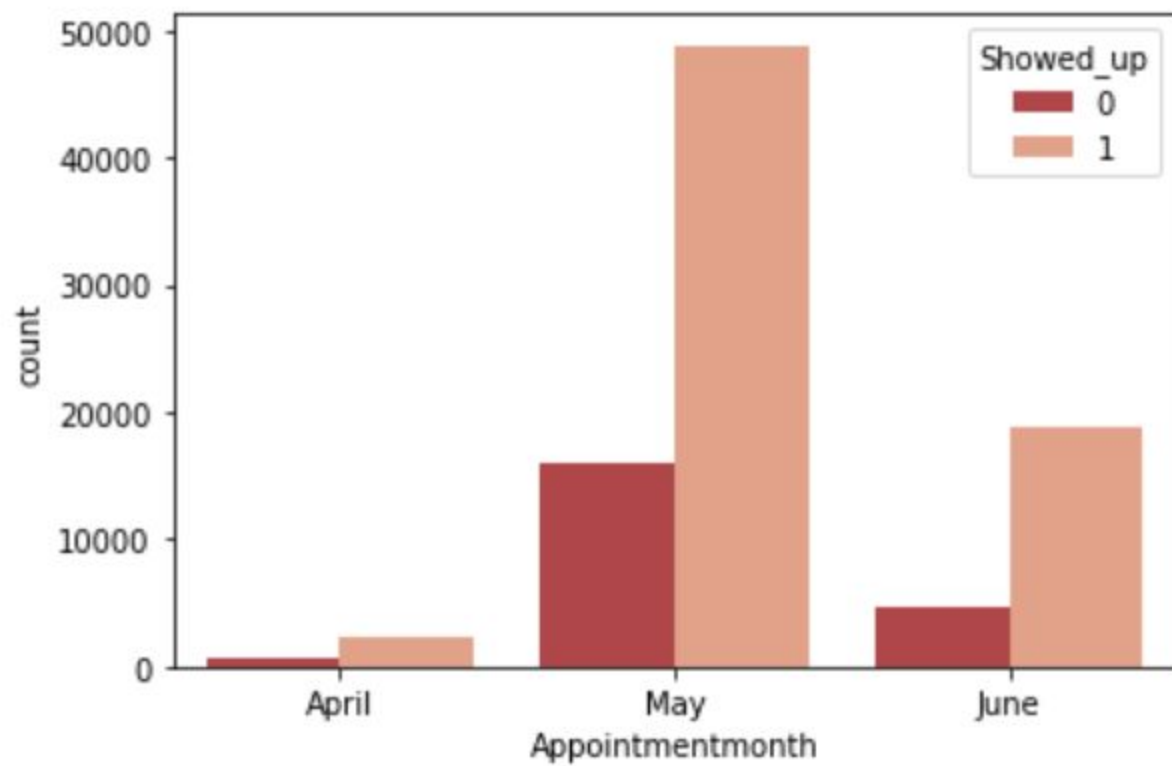
Balanced Dataset

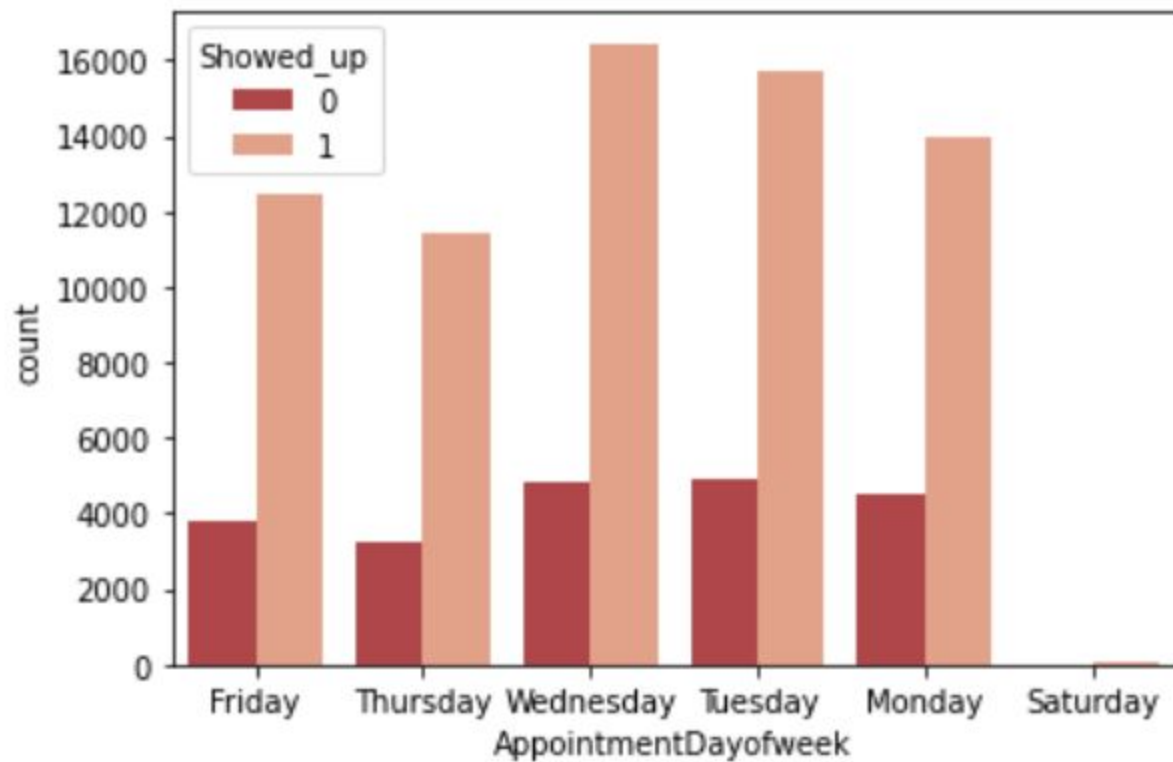


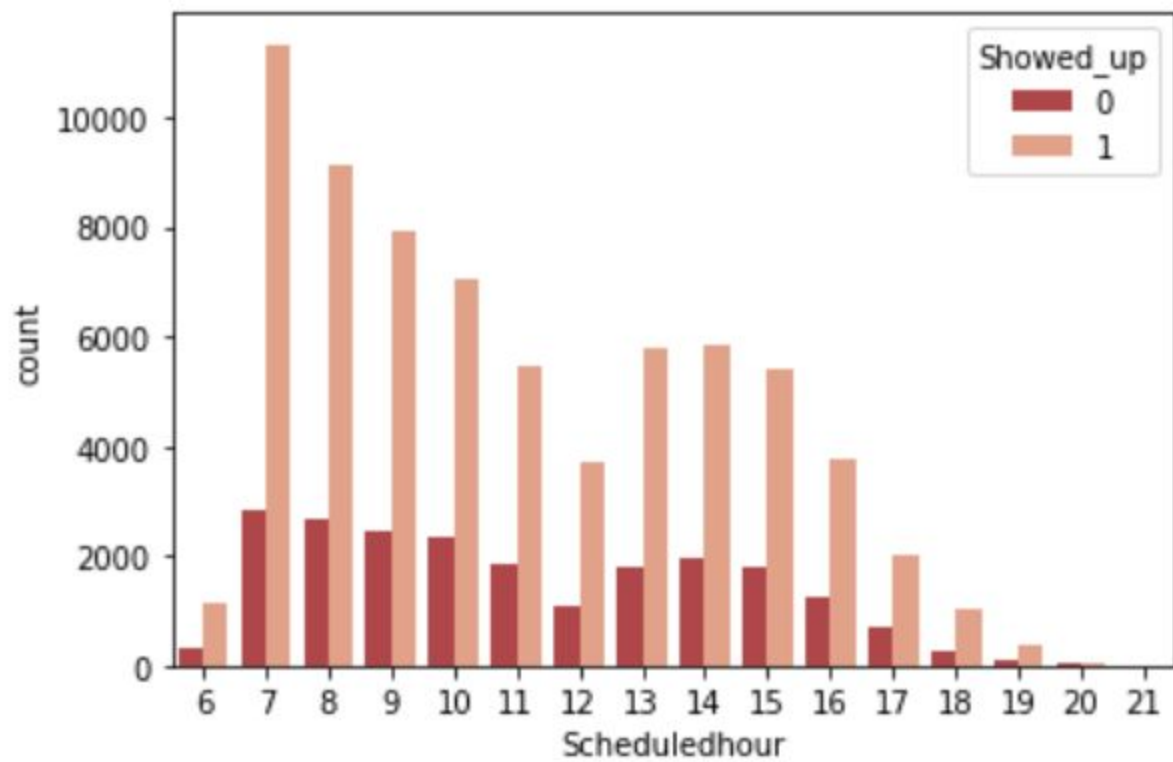


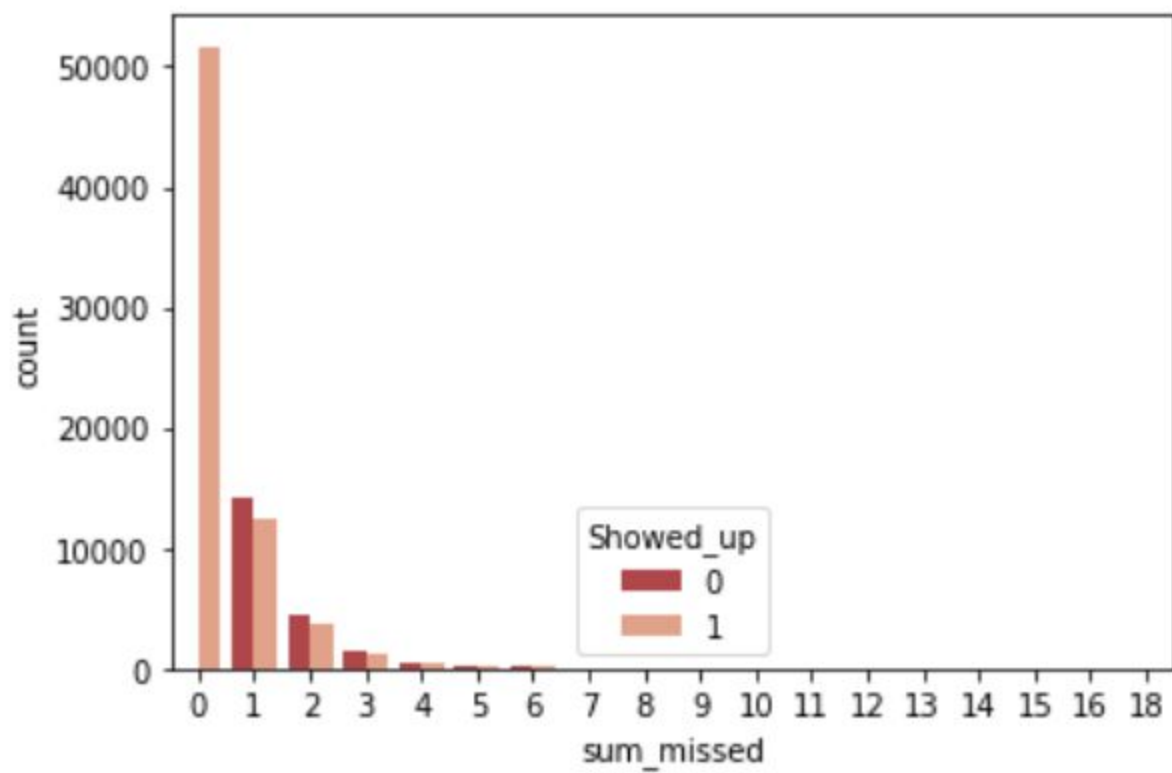
Balanced Dataset



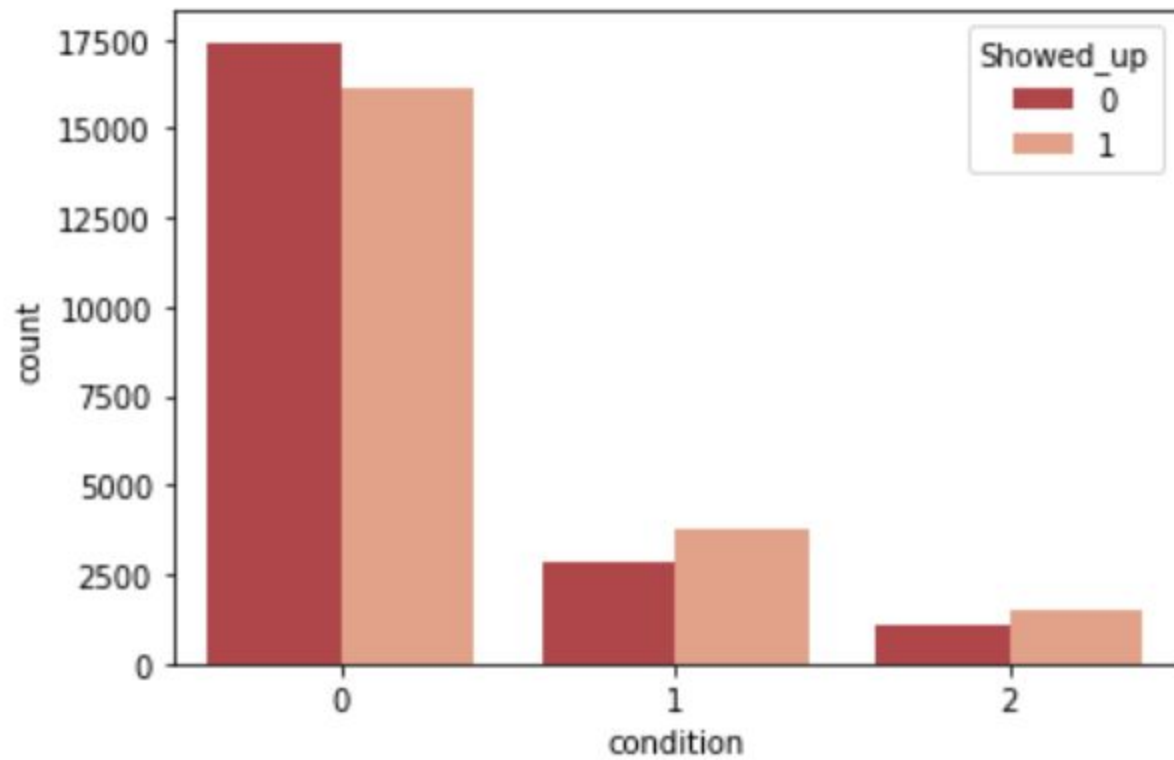








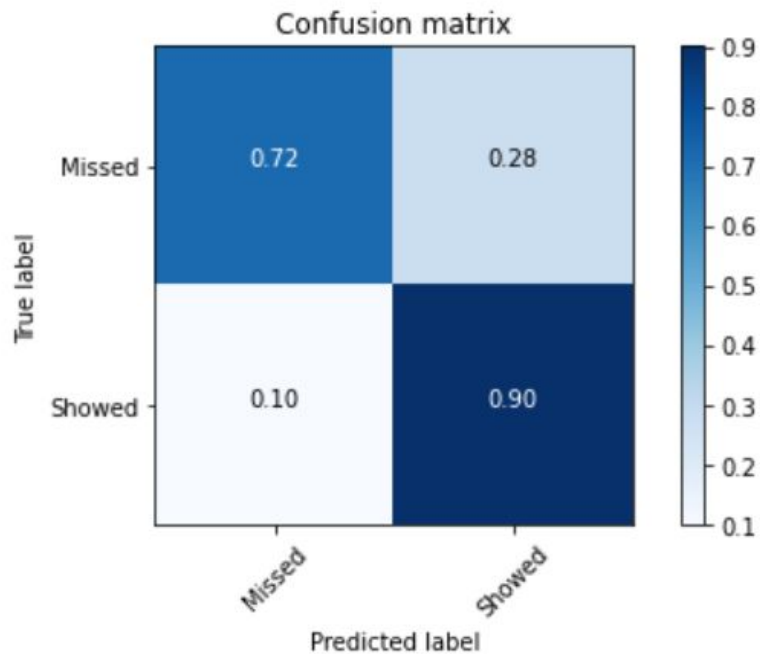
Balanced Dataset



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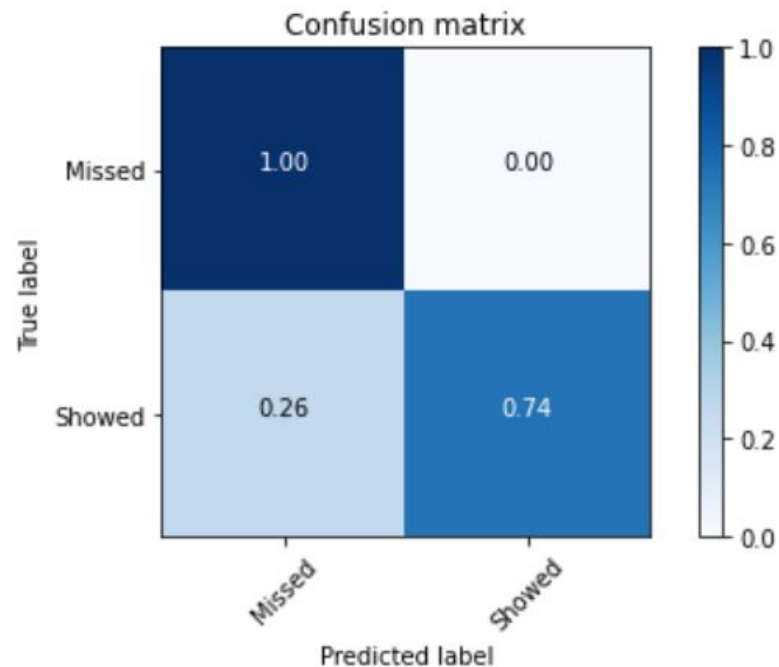
Using Logistic Regression

Normalized confusion matrix
Accuracy : 0.8114024818543667
F1 Score: 0.8276083467094704



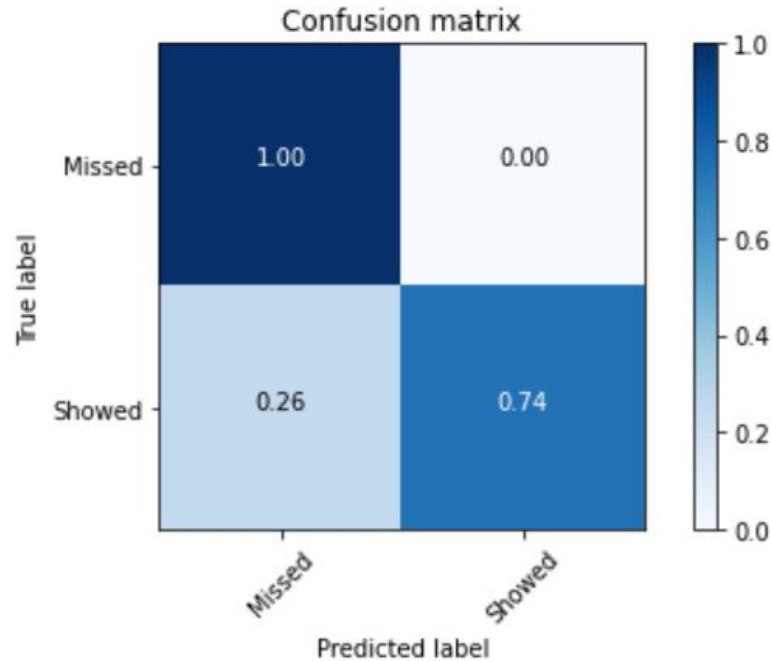
Using a Xgboost Classifier

Normalized confusion matrix
Accuracy : 0.8686490283306018
F1 Score: 0.8496381667113375



Using a Simple Neural Network

Normalized confusion matrix
Accuracy : 0.8727464294076329
F1 Score: 0.8537208989368861



Operation Unit

Send text notifications to those who scheduled during in high cancelation time periods i.e [between 7am - 11am & 2pm -3pm]

Encourage Friday and Thursday bookings more.

Switch to phone call reminders a day prior to the appointment.

Use the app built to view a patients probability of canceling a day prior, if its $> 70\%$, call to suggest reschedulling before the patient even thinks of canceling.

Model:

Try upsampling for better accuracy of model.

Try a more indepth grid search approach using more parameters.

Get more data especially for time variables.

Experiment with label encoding for the time variables made in the begining i.e ['ScheduledDayofweek', 'Scheduledmonth','AppointmentDayofweek', 'Appointmentmonth'].