PROJECT REPORT: MEDICAL APPOINTMENT NO-SHOW

INTRODUCTION

There are many patients who doesn't appear on scheduled date. First evaluate the reason behind their disappearance and then predict if they show or not. We find many factors that affect their no-show and predict if the patient arrives on scheduled date by changing these factors. Also we find effective methods to solve this problem.

ABSTRACT

The project is about predicting if a patient shows on the scheduled date or not. The No- show of patients after appointment is an important problem faced by healthcare industry. We set a model to predict whether a person show or not show based on some factors we selected. Then we evaluate our selected factors to get insights. Next find effective methods to improve the appearance of patients. These insights can be implemented in healthcare industry for increase the show of patients after appointment.

Tools

Python (pandas, Seaborn, matplotlib, Sklearn)

Power BI

STEPS

Dataset is downloaded from Kaggle.

Imported dataset to google colab.

Read dataset using pandas.

Check data types and changed wrong types to correct data types.

Renamed columns.

Drop unwanted values in dataframe.

A new column named Appointment week was created.

A new column called waiting days was created by subtracting appointment date and scheduled date.

Used strip plot to plot waiting days.

Outliers are defined based on waiting days.

Dropped outliers.

Dropped rows with duplicate patient ID.

Import sklearn.

Appointment week column is converted to integer data type to make evaluation easy.

Final dataset is used in prediction model.

Train and test dataset.

From sklearn decision tree classifier is imported.

Predicted using new values.

Then Power BI is used for visual representation.

CONCLUSION

Prediction model accuracy- 74%

Total appointments- 58.64K

Not Shown patient- 80.4%

shown patient– 19.6%(11K)

Tuesday has a greater number of appointments and Thursday have less number of appointments.

Out of shown patients 34.84% are male and 65.16% female

More patients are from middle age (45-70)- 19k

RECOMMENDATIONS

From evaluating the results, we have some recommendation to increase the number of patients show.

1) Call patients a day before scheduled date to ensure their appearance.
2) Arrange travel facilities for patients who needs.
3) Arrange home medical service for bedridden patients if they need at the time of appointment.