Ozyegin University

DS 530 Fall 2023

Course Project

Deadline: 17 January 2024 23:59

Note: You can work in groups of at most three in this project.

I expect you to find a relevant dataset for which a binary classification task is necessary (e.g., https://archive.ics.uci.edu/ has many interesting datasets).

Your tasks are:

(1) Discuss why you need to treat fairness issues in this dataset (consider the context and use your imagination if necessary). This part is not necessarily purely quantitative, but also qualitative.

(2) Find a good black-box classification model to predict the target variable. Calculate KPIs regarding fairness based on predictions of this black box model.

(3) Use a global surrogate model for a model agnostic explanation.

(4) Discuss if the fairness issues have increased or decreased in the global surrogate model using the KPIs introduced in the class.

(5) Find a good interpretable classification model to predict the target variable. Compare the results of surrogate model and interpretable model in terms of model accuracy and fairness.

Once completed, please **email me** your written report (max 8 pages introducing the problem, the dataset used, and the results for each of the tasks detailed above), the dataset you have used, and the codes. Also include a team member contribution paragraph. (AA: collected the dataset, conducted XYZ analysis, BB: Conducted ABC analysis, wrote the report, etc…)