Group name: Lone Wolf

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GitHub repository link: **https://github.com/N-A-ML/Data\_Glacier\_Final\_Project\_Week\_7\_to\_13**

Problem description:

To understand the healthcare dataset (persistency of a drug) and devise a plan regarding how we will clean, transform and handle the data.

Data understanding and type of data for analysis:

To start with, the data available is structured, with 3424 rows and 69 columns. Persistency\_Flag is the target variable, and indicates whether or not the patient is persistent with treatment. There are only 2 numerical variables: Dexa\_Freq\_During\_Rx and Count\_Of\_Risks, the others are categorical or have values in the form of strings. The variables Age\_Bucket and Ptid will be converted to numbers the ‘replace’ command. The categorical variables are to be converted to binary variables with pd.get\_dummies so that they can be used for modelling later on. The numerical variables are not normally distributed.

Problems in the data:

1)The numerical variables are not scaled

2) There are outliers present in these variables: Dexa\_Freq\_During\_Rx , Count\_Of\_Risks.

3) There are a very high number of columns / features

Some of the classes for the categorical variables are imbalanced (most notably the Gender variable), although this is not necessarily problematic.

There are no NA, NaN, or missing values in the dataset, and no duplicate values.

Approaches to overcome problems:

1. We can use MinMaxScaler to scale the numerical variables. This will be useful for future analyses, especially since the data is not normally distributed
2. It could be useful to remove outliers (values which exceed 3 standard deviations of the mean) to reduce the variance in the data.

3) We can use SelectKBest to choose the k best features, and just use those for future analysis.