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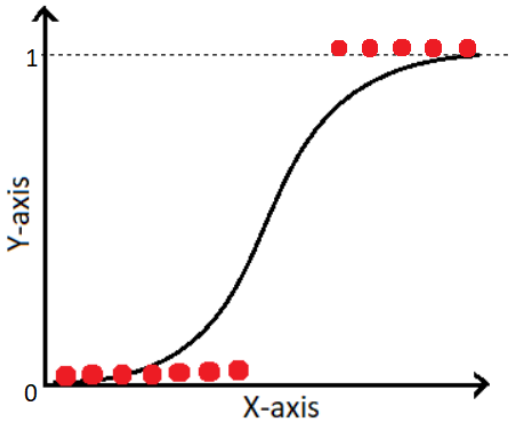
Machine Learning

Practical Sheet 3: Logistic Regression



1. Your task for today's practical class, is to adapt the "linear_regression.py" script to perform logistic regression.

    - At first, implement only the "two-classes" version
    - Generalize your script, to handle multi-class problems.

    Also, consider two different feature-normalization strategies: "Min-max" and "Z-score"

    Download the data from the "**wine.csv**" Dataset, available at the course web page.
    - Here, the goal is to use chemical analysis to determine the origin of different wines.
    - There are 13 attributes, all numeric (either integer or real numbers):
        - *1) Alcohol*
        - *2) Malic acid*
        - *3) Ash*
        - *4) Alcalinity of ash*
        - *5) Magnesium*
        - *6) Total phenols*
        - *7) Flavanoids*
        - *8) Nonflavanoid phenols*
        - *9) Proanthocyanins*
        - *10)Color intensity*
        - *11)Hue*
        - *12)OD280/OD315 of diluted wines*
        - *13)Proline*

    - The dependent variable is provided in the first column.