Regression Example

The example below uses a marketing dataset, in order to illustrate a regression activity.

Workflow

1. Preparation
    A. Load the dataset from a `.csv` file and show a short description
    B. Data preparation, according to background information
    C. Set the **target** variable, according to background information
    D. Show the two dimensional scatter plots for all the predicting variables with respect to the targ
    E. Split the data into *predicting variables* `X` and *target* `y`
        a. here we set the `random_state` variable to make the experiment *repeatable*
2. First experiment: compute the regression on a single predicting variable
    A. Consider a reduced dataset containing the chosen variable and the target
    B. Fit the `LinearRegression` estimator on the training set
    C. Show the statistical significance of the fitted model
    D. Predict the target for the test set using the *fitted* estimator
    E. Compute the regression coefficients and the quality measures: *Root Mean Squared Error (RMSI*
        determination (r2)
3. Second experiment: compute the regression considering all the predicting variables
    A. Repeat the steps from 2.2 to 2.5
4. Third experiment: use the `DecisionTreeRegressor` with the entire dataset