

LAB 1 - Simple Linear Regression

In this lab, we will perform simple linear regression in Python. To do this, we will need the .csv provided in the LAB1 folder.

The .csv file contains information related to an imaginary soccer team (it is the same .csv file we examined in LAB0). We will investigate the “age” and “experience” columns and see how player age affects player experience. Simple linear regression is going to be the method of choice for this task. Please be observant of following instructions:

- Read the .csv file, extract the “age” and “experience” values in two different lists. The age list is going to be our “x”, and experience list is going to be our “y”. Remember to import the csv library.
- Implement two different methods, where one computes and returns the regression coefficients, and the other plots the results. In the script, read the .csv file, extract the lists and call the corresponding methods in order. The script and the methods should be on the same file.
- When plotting, do a scatter plot using the actual data points, and draw the regression line on top. You can call the plot() function twice and use the show() function to display both plots on the same graph. Both functions belong to the matplotlib library, so don't forget to import it.
- When extracting the lists, don't use standard lists. Use the numpy library to create an array with the array() function, then use the append() function to add items to the array. We will use numpy arrays since it is much easier to do element-wise operations with them, unlike standard lists, so again don't forget to import numpy.