Statistics with Python
Practicals 2

Normal Distribution

Exercise 1

☞2.5 points

- Generate and plot the Probability Density Function (PDF) of a normal distribution, with a mean of 5 and a standard deviation of 3.

- Generate 1000 random data from this distribution.

- Calculate the standard error of the mean of these data.

- Plot the histogram of these data.

- From the PDF, calculate the interval containing 95% of these data.

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t-Distribution

Exercise 2

☞2.5 points
Measuring the weight of your colleagues, you have obtained the following weights: 52, 70, 65, 85, 62, 83, 59 kg. Calculate the corresponding mean, and the 99% confidence interval for the mean.
Note: with n values you have $n - 1$ degrees of freedom (DOF) for the t-distribution.
Hint: compute the mean $\pm$ PPF($\frac{1-99\%}{2}$) * SEM

☞The answers to the questions above must be handled in today, at the end of the practicals session!