Gaussian Noise Exercise

Topic: Gaussian noise refers to a noise signal with a PDF equal to that of the normal, or Gaussian distribution, that is added to an image. It is usually introduced during the acquisition and/or transmission process. It can be reduced using spatial filtering methods which may, unfortunately, blur image edges and details.

Exercise: Create a Python script file and perform the following tasks:

- Import OpenCV and NumPy libraries.
- Create a function that takes as input an image and the mean and variance of the Gaussian distribution, creates a Gaussian noise signal, adds it to the original image and returns the noise image. You can add any extra parameters you desire.
- Read an image.
- Add Gaussian noise to the image.
- Finally, display the original image alongside the noise one.