

# Running Median Filter Exercise

**Topic:** The running median filter is a variation of the standard median filter that is based on window overlapping. It finds the local gray-level histogram of the pixels in each window and adapts it as the operation shifts to the next window. In theory, it is much faster than the standard median filter.

**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 size of the running median filter and performs running median filtering on the image. Then, it returns the filtered image. It should use 0-padding in order to prevent the creation of black borders in the image. You can add any extra parameters you desire.
- Read an image.
- Corrupt the image with any type of noise you desire.
- Apply running median filtering to the noise image.
- Finally, display the noise image alongside the filtered one.