

Solution - Exercise [9]

Introduction to Computer Graphics - B-IT Master Course

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Theoretical Exercise

1. What are the use cases of low-pass filters in the field of computer graphics and how are they implemented?

Usage of low-pass filters : Remove random noise, remove periodic noise, reveal a background pattern, image smoothing

Implementation: Calculates the average of a pixel and all of its eight immediate neighbors. The result replaces the original value of the pixel. The process is repeated for every pixel in the image.

2. Why is discrete convolution using an ideal low-pass filter impracticable in the spatial domain?