

Digital Image Processing

Assignment 1

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Theory

1. What is a digital image?

A digital image is a machine-readable representation of a photograph. The parts (pixel) of the image are represented in structures like matrices, graphs or trees. Every pixel describes a color in a discrete color space.

2. What does the paradigm „bottom-up processing“ mean?

Bottom-up processing is a paradigm of image-processing, where you try to recognize objects in an image and state a hypothesis of it's meaning based on these objects. The opposite of bottom-up processing is top-down processing. There you start with a model, which you try to match with the image.

3. State at least three fundamentally different image sources?

- visible light
- infrared
- radio waves
- sound waves