Computergenerierte Bilder

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RWTH Aachen

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Organisatorisches

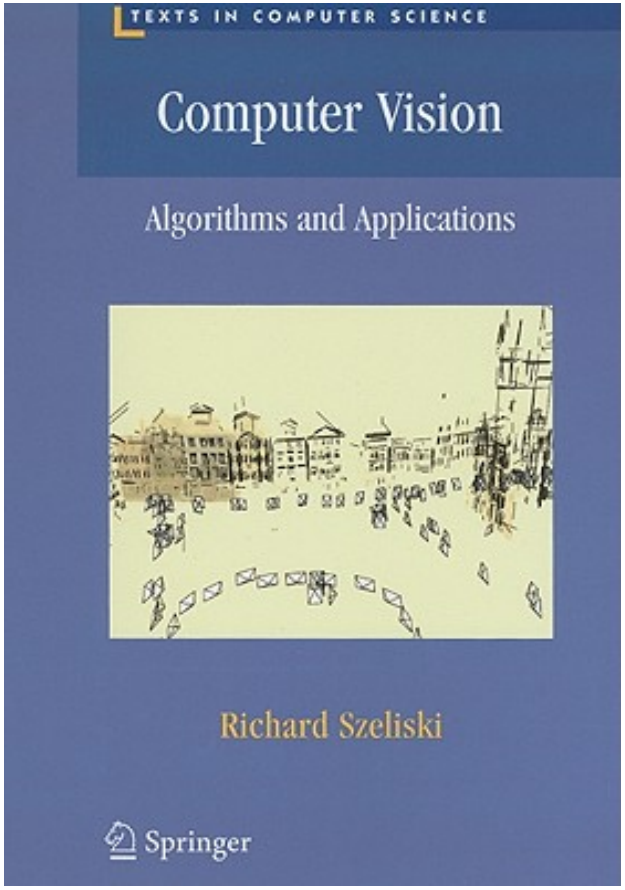
Einführung in die Recherchearbeit:
08.04. von 11:00 bis 13:00 in der Informatikbibliothek.

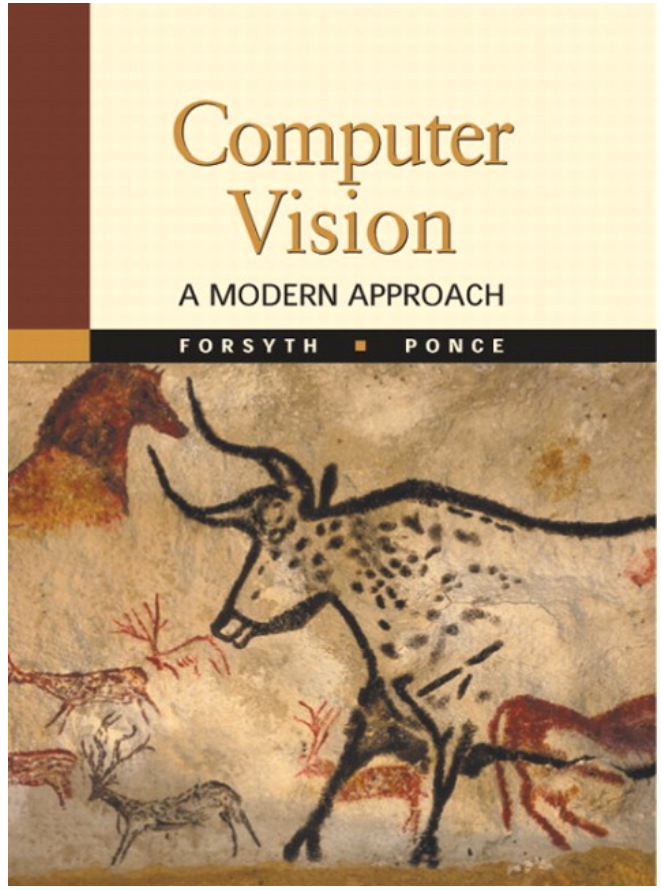
Konzept Ausarbeitung	30.04.
Entwurf Vortrag	15.05.
Probevortrag	15.05–19.06
Blocktermin 1	26.06.
Blocktermin 2	03.07.
Blocktermin 3	10.07.
Abgabe Ausarbeitung	08.08.
Endgültige Abgabe	08.09.

Themen

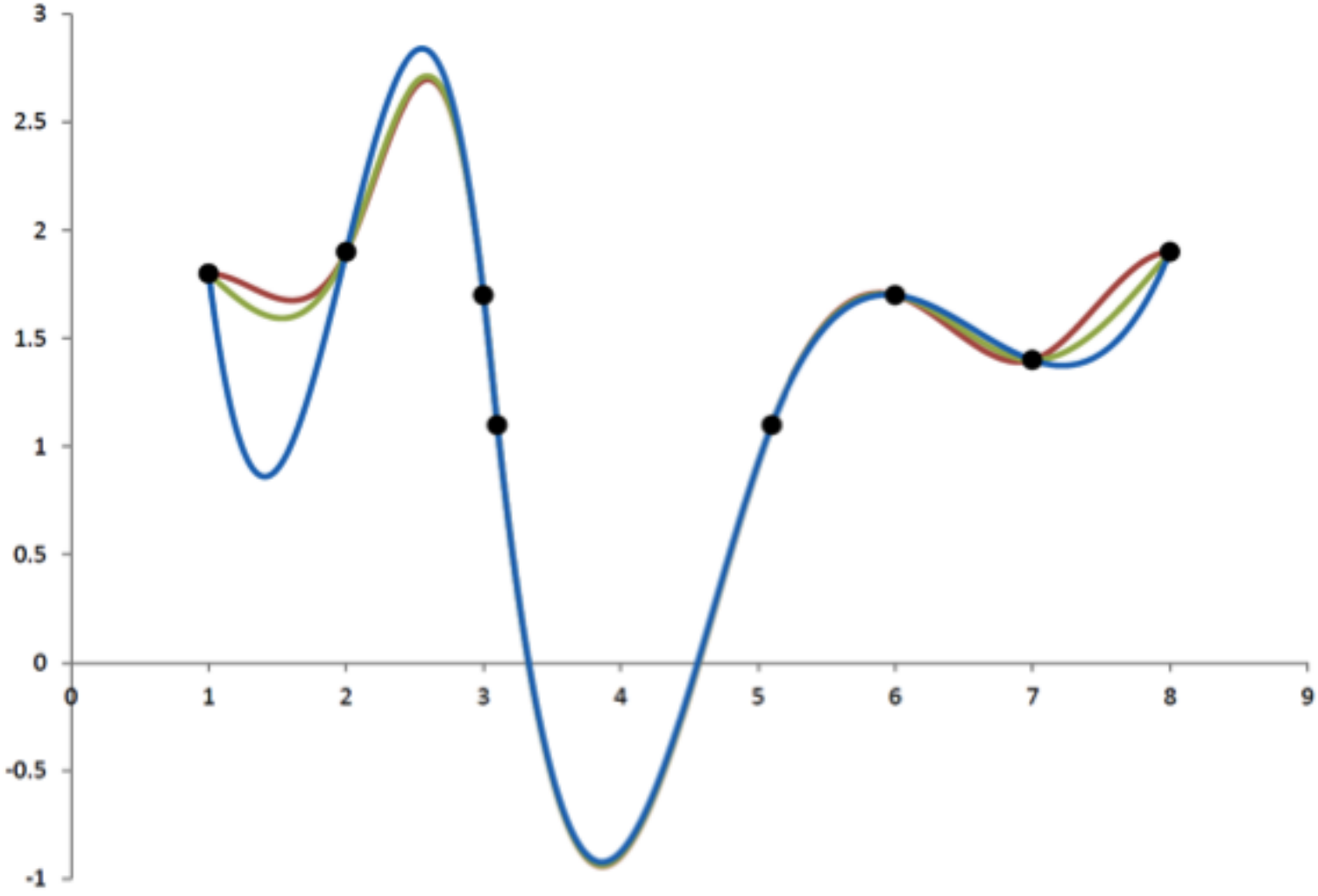
- Splines [Lilith]
- Dithering [Alex]
- Bresenham [Stefan]
- Ray-tracing [Ferdinand]
- Hobby-Splines [Thomas]
- Hobby-Kurvenrasterung [–]
- Faltungsfilter [Niklas]
- Farbräume [Adam]
- Fraktale [Hakan]
- Perlin-Noise [Leonard]

Grundbücher





Splines

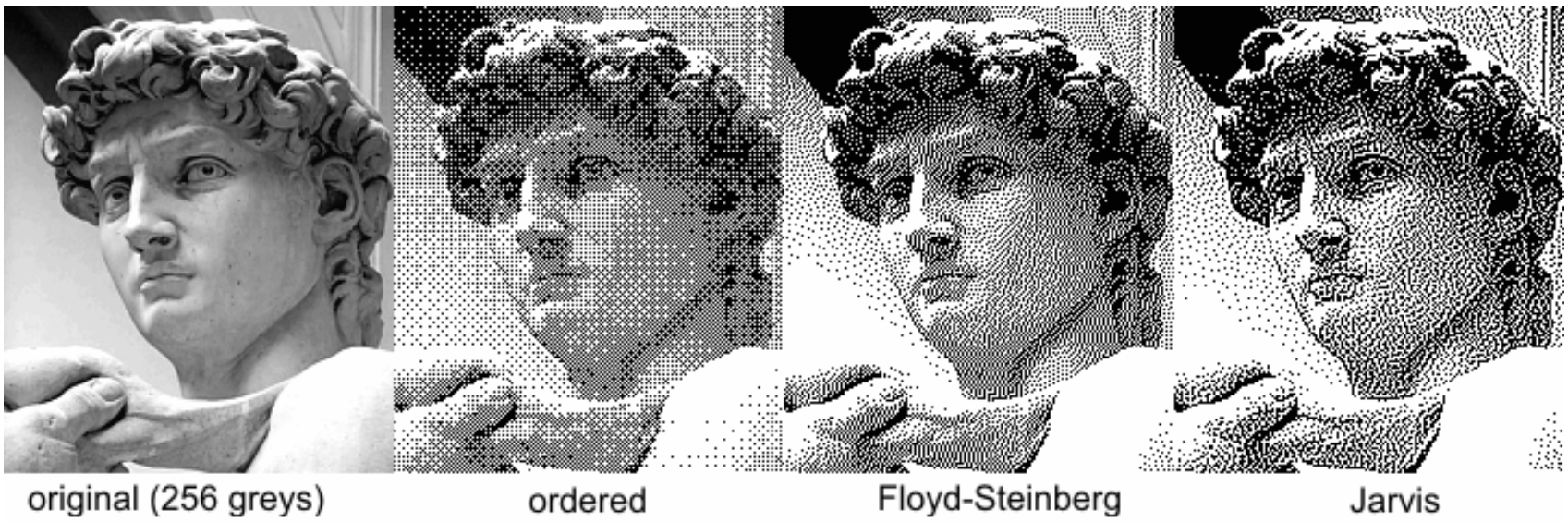


Splines

Literatur:

- Bézier and B-Spline Techniques (Hartmut Prautzsch, Wolfgang Boehm, Marco Paluszny)
- An Introduction to Splines for Use in Computer Graphics and Geometric Modeling (Richard H. Bartels, John C. Beatty, Brian A. Barsky)

Dithering

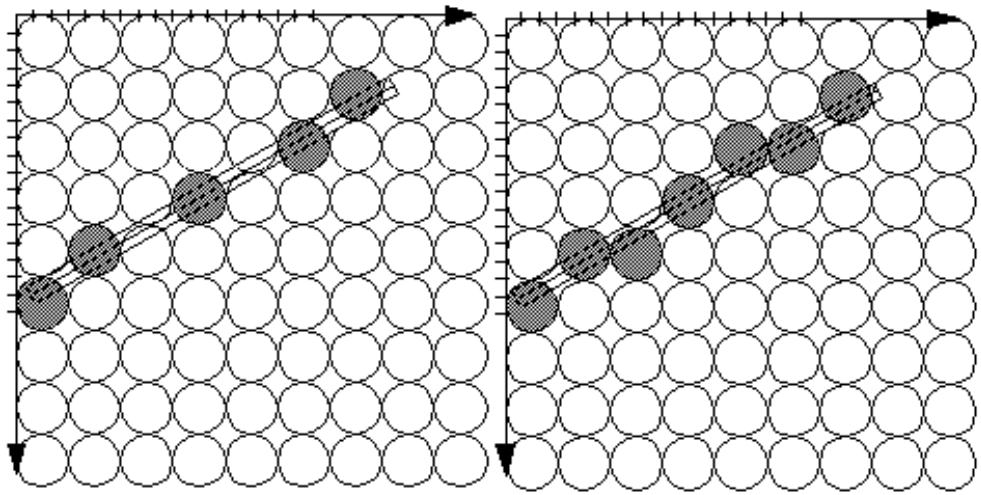


Dithering

Literatur:

- Picture Coding Using Pseudo-Random Noise (Lawrence Gilman Roberts)
- Dither Signals and Their Effect on Quantization Noise (Leonard Schuchman)

Bresenham

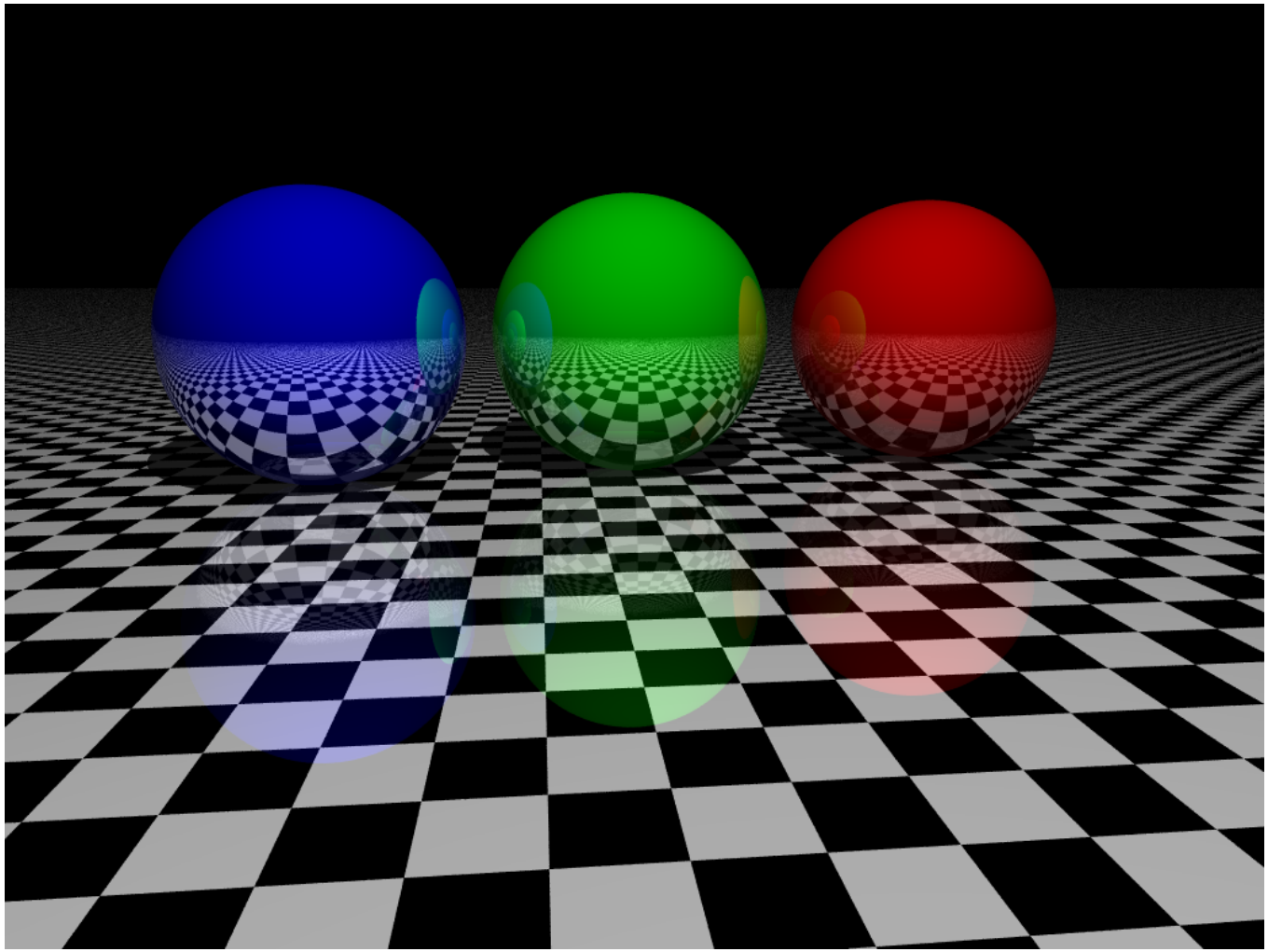


Bresenham

Literatur:

- Algorithm for computer control of a digital plotter (J. E. Bresenham)

Ray-tracing



Ray-tracing

Literatur:

- Some techniques for shading machine rendering solids (Arthur Appel)
- GPU Gems 2

Hobby-Splines

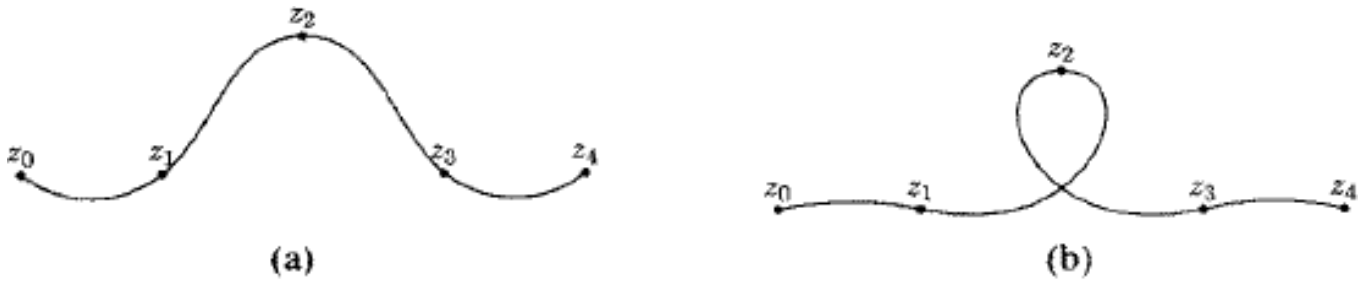


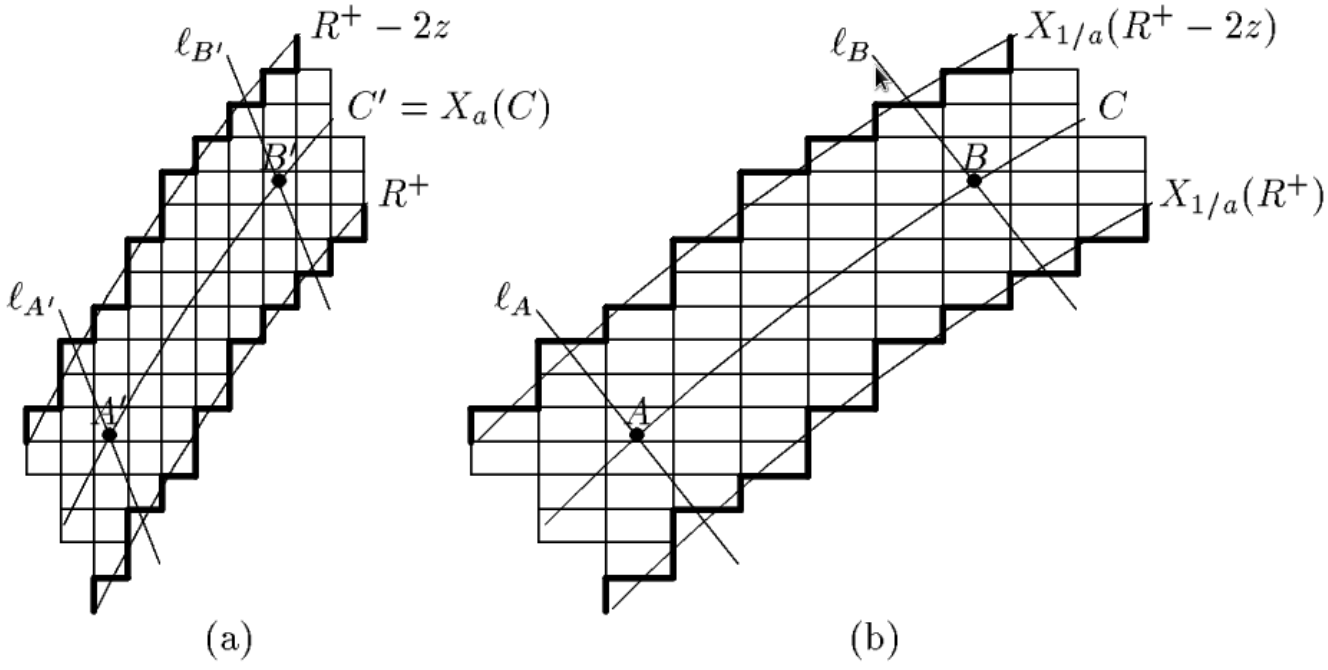
Fig. 13. A spline computed (a) with $\psi_2 = -90°$ and (b) with $\psi_2 = 270°$.

Hobby-Splines

Literatur:

- Smooth, Easy to Compute Interpolating Splines (John D. Hobby)

Hobby-Kurvenrasterung



Hobby-Kurvenrasterung

Literatur:

- Rasterizing Curves of Constant Width (John D. Hobby)

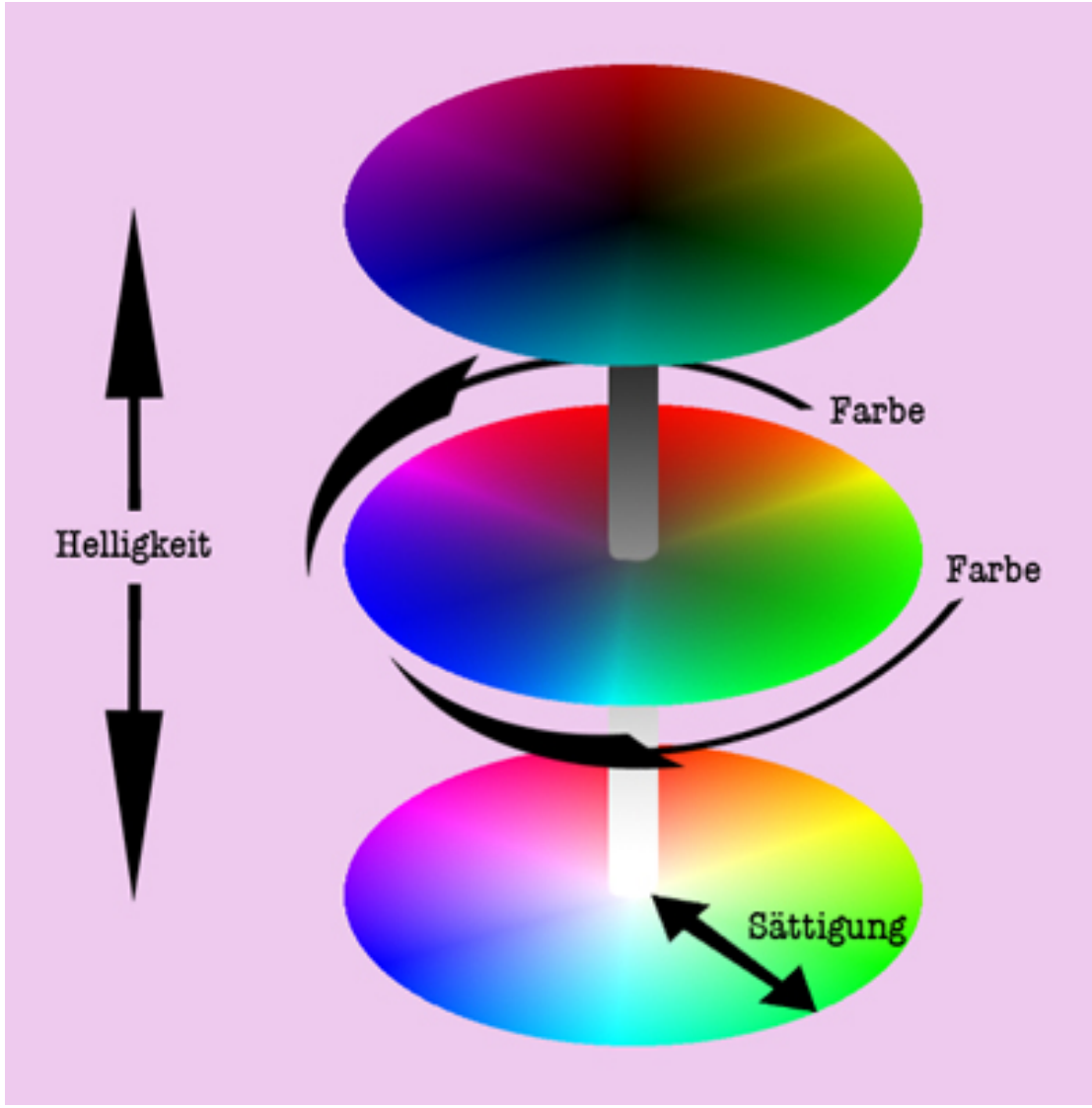
Faltungsfilter

Faltungsfilter

Literatur:

- Computer Vision: A modern Approach

Farbräume

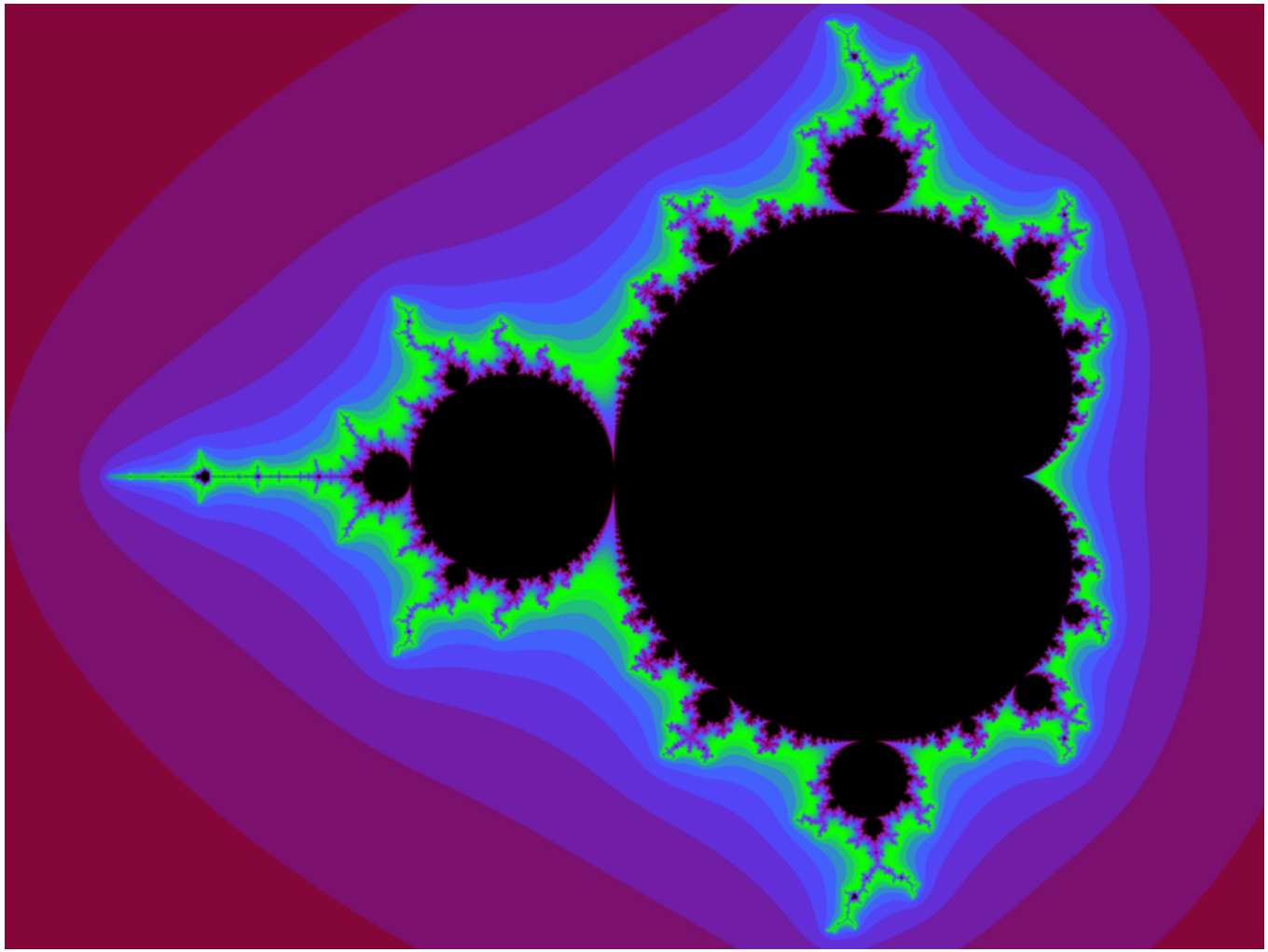


Farbräume

Literatur:

- Computer Vision: A modern Approach
- Computer Vision (Pearson)

Fraktale

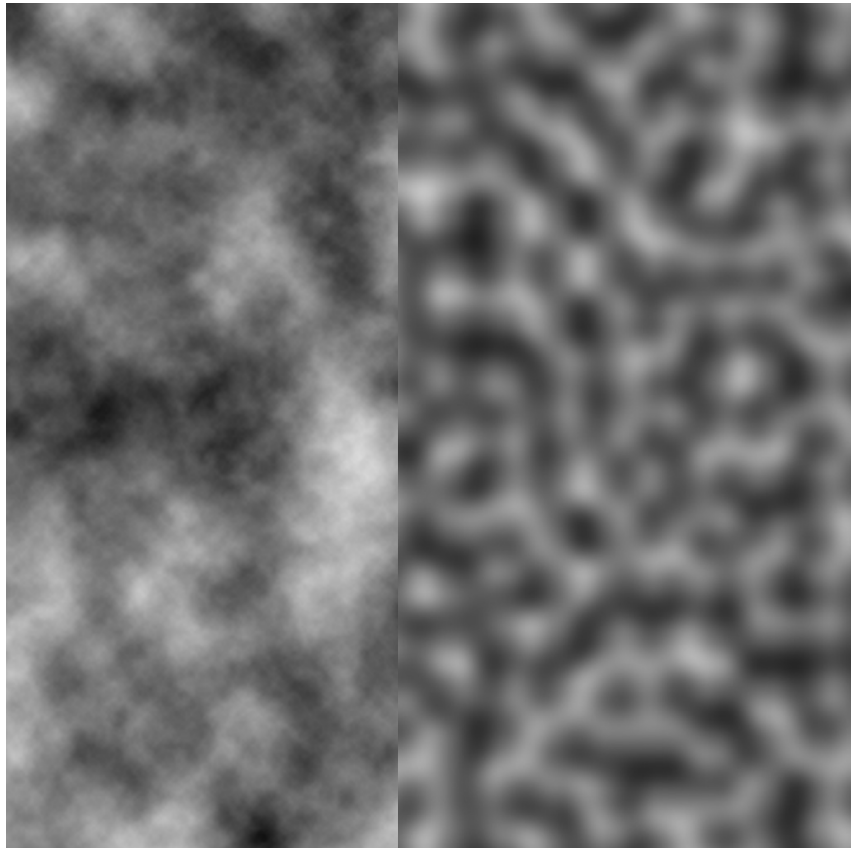


Fraktale

Literatur:

- Die fraktale Geometrie der Natur
- Bausteine des Chaos: Fraktale

Perlin-Noise



Perlin-Noise

Literatur:

- Improving Noise (Ken Perlin)

Themen

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