Selected Chapters organized by

Walter G. Kropatsch
Inst. 193/3 Visual Computing and Human-Centered Technology
Pattern Recognition and Image Processing Group
Relating critical point with slopes in surfaces
Optimize contraction kernels in plateaus
Combining RGB-pyramids
Combining slices of 3D images
183.151 AKBV SS 2021

Lectures are online/by email.
Zoom meetings on selected dates
Student Registration: by TISS
Working Mode SS 2021

Each lecture unit (except begin) will be subdivided into three parts:

1. Summary of discussion of last lecture unit.
2. Presentation of new book chapters and/or related scientific articles.
3. Discussion introduced and lead by opponent.

Several lecture units can be combined in a block.
<table>
<thead>
<tr>
<th>proposed Dates</th>
<th>Speaker</th>
<th>Opponent</th>
<th>report</th>
<th>Topic (2+3)</th>
<th>page</th>
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<tbody>
<tr>
<td>9. 3.</td>
<td>Walter Kropatsch</td>
<td>13-17</td>
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<td>Introduction</td>
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<td>13. 4.</td>
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Your tasks:

1. Select a topic and present it;
2. write a summary of your selected lecture topic;
3. as opponent: prepare a few initial critical statements (1-2 slides);
4. write a short report about a discussion;
5. actively participate in the discussion.

Reports, presentations and slides are the basis for evaluation.

Let’s enjoy several interesting topics together!
Participants SS 2021

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<tr>
<th>Mat.Nb.</th>
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Selected Topics SS 2021

1.

2.

3.

Selections SS 2021

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Topics in the Past

Selected Chapters started in 2002

SS 2002 AKdTI5: Walter Kropatsch: Anwendungen von Bildpyramiden
Selected Chapters 2003-2008

SS 2003(BV): Walter Kropatsch: BILDPYRAMIDEN + GRAPHEN
SS 2004(BV): Wolfgang Förstner (Bonn): Projektive Geometrie
WS 2004(ME): Walter Kropatsch: Cognitive Vision
SS 2005(BV): Walter Kropatsch: Repräsentationen in der Bildanalyse
SS 2007(BV): Eric Andres (Poitiers): discrete Geometry
WS 2007(ME): Walter Kropatsch: GRAPHS + Pyramids
SS 2008(BV): R. Gonzalez-Diaz (Sevilla): Extracting Topological Information of 3D Digital Images
WS 2008(ME): Kropatsch, Helena Molina (Sevilla): Pyramids + Topology
Selected Chapters 2009-2013

SS 2009(BV): Pedro Real Jurado (Sevilla): Computing ”holes” of 3D digital objects
WS 2009(ME): Luc Brun (Caen): Partition encoding: Geometrical and topological challenges
SS 2010(BV): Walter Kropatsch: We are building a Topological Pyramid and Rocio Gonzalez-Diaz (Sevilla): (Co-)Homology Groups of 3D binary images
WS 2010(ME): Kropatsch, Vucini, Chao Chen: Pyramids + Topology
SS 2011(BV): Horst Bunke (Bern): Basic Methodology and Recent Developments in Structural P
WS 2011(ME): Claudia Landi (Reggio Emilia, I): Shape-from-function methods
SS 2012(BV): Max Göbel and Walter Kropatsch: Object Detection/Recognition from 2D images
WS 2012(ME): KSFu Lecture Series: Pavlidis, Aggarwal, Huang, Kittler, Jain, Bunke
SS 2013(BV): Walter Kropatsch, GbR2013: Graph-based Representations in PR
WS 2013(ME): KSFu Lecture Series: Pavlidis, Aggarwal, Huang, Kittler, Jain, Bunke, Chellappa
Selected Chapters 2014–2019


WS 2014(ME): Walter Kropatsch: Selection of KSFu and BMVC Lectures

SS 2015(BV): Laszlo Nyul: Fuzzy techniques in image processing

WS 2015(ME): Walter Kropatsch, Nicole Artner, Ines Janusch, Aysulu Gabdulkhakova: Selection of topics 2015/16

SS 2016(BV): Walter Kropatsch: Graphs: Matching and Distance

WS 2016(ME): Walter Kropatsch, Ines Janusch: Skeletonization and its Applications

SS 2017(BV): Raphael Barth, Ines Janusch, Walter Kropatsch: 360° Vision

WS 2017(ME): Walter Kropatsch: Recognizing Plants & Animals

SS 2018(BV): Walter Kropatsch: Hyperbolic MAT & Warping with space filling curves

WS 2019(ME): Walter Kropatsch: Border propagation for slope decompositions and NN and data...