

Image and video processing

<ul style="list-style-type: none"> SAD, HD, variance, edges ECR Precision, Recall, F1 RGB, YUV 	<ul style="list-style-type: none"> K-means, histogram cluster, region growing, edge segmentation, graph cuts Interpolation, background images Median, Morphological operators Motion based segmentation 	<ul style="list-style-type: none"> Object model Color space, CIE norm chart, RGB, HSV, color histogram, dominant color Compactness, eccentricity, curvature, curvature scale space, ambiguities Homogeneous texture descriptor, edge histogram Motion activity, motion trajectory 	<ul style="list-style-type: none"> Detection of text regions Detection of text lines Segmentation of letters OCR: Pattern matching, zoning, shape contexts, contour profiles, skeletons, scale space images 	<ul style="list-style-type: none"> HDR approach Response function Tone mapping
<ul style="list-style-type: none"> Moravec SIFT Camera models Camera model parameters 				<ul style="list-style-type: none"> Adaptation techniques Seam carving Seam carving for videos

Fundamental algorithms

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Image and Video Processing Course overview

Dr. Stephan Kopf
Praktische Informatik IV

UNIVERSITY OF
MANNHEIM

Expected work load

What do I expect:

- Participation in lecture and exercises
- Programming of exercises (in small teams)
- Presentation of results during exercises

Work load

- Lecture, exercises (28x2)
- Post processing course (1x14)
- Preparation exercises (4x14)
- Preparation exam (3x8)

6 ECTS = 180 hours per semester	
56	
14	
56	
24	
total: 150 hours	30 (available)

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