

BIL 717 - Image Processing, Spring 2014

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READING LIST

Nonlinear Diffusion Filtering

- J. Weickert, Coherence-enhancing diffusion of colour images, *Image and Vision Computing*, 1999
- T. Brox et al., Nonlinear structure tensors, *Image and Vision Computing*, 2006
- G. Steidl and T. Teuber, Diffusion Tensors for Processing Sheared and Rotated Rectangles, *IEEE Trans. Image Processing*, 2009
- O. Vogel et al., A fully discrete theory for linear osmosis filtering, In *Proc. SSVM*, 2013.

Variational Segmentation Models

- C. Xu and J. L. Prince, Snakes, Shapes, and Gradient Vector Flow, *IEEE Trans. Image Processing*, 1998
- X. Bresson et al., Fast global minimization of the active contour/snake model, *J. Math. Imaging and Vision*, 2007

Image Smoothing

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- K. He et al., Guided Image Filtering, In *Proc. ECCV*, 2010
- L. Pizarro et al., Generalised Nonlocal Image Smoothing, *Int. Journal Comp. Vis.*, 2010
- Farbman et al., Diffusion maps for edge-aware image editing, *ACM Trans. Graph.*, 2010
- Xu et al., Structure extraction from texture via relative total variation, *ACM Trans. Graph.*, 2012
- Zontak et al., Separating signal from noise using patch recurrence across scales, In *Proc. CVPR*, 2013

Image Deblurring

- A. Levin et al., Understanding and evaluating blind deconvolution algorithms, In *Proc. CVPR*, 2009
- S. Cho and S. Lee, Fast motion deblurring, *ACM Trans. Graph.*, 2009

- O. Whyte et al., Non-uniform deblurring for shaken images, In Proc. CVPR, 2010
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- T. S. Cho et al., Blur kernel estimation using the radon transform, In Proc. CVPR 2011
- L. Xu et al., Unnatural L0 Sparse Representation for Natural Image Deblurring, In Proc. CVPR, 2013
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- L. Sun et al., Edge-based blur kernel estimation using patch priors, In Proc. ICCP, 2013
- Y. HaCohen et al., Deblurring by Example using Dense Correspondence, In Proc. ICCV, 2013

Image Segmentation

- Y. J. Lee and K. Grauman, Collect-Cut: Segmentation with Top-Down Cues Discovered in Multi-Object Images, In Proc. CVPR, 2010
- P. Arbelaez et al., Contour Detection and Hierarchical Image Segmentation, IEEE Trans. Pattern Anal. Mach. Intell., 2011
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Sparse Coding

- J. Yang et al., Image super-resolution as sparse representation of raw image patches, In Proc. CVPR, 2008
- J. Mairal et al., Non-Local Sparse Models for Image Restoration, In Proc. ICCV, 2009
- J. Mairal et al., Task-Driven Dictionary Learning, IEEE Trans. Pattern Anal. Mach. Intell., 2012
- H. Ji et al., Robust video denoising using low rank matrix completion, In Proc. CVPR, 2010
- W. Dong et al., Sparsity-based image denoising via dictionary learning and structural clustering, In Proc. CVPR, 2011

Graphical Models

- C. Rother et al., Cosegmentation of Image Pairs by Histogram Matching - Incorporating a Global Constraint into MRFs, In Proc. CVPR, 2006
- V. Lempitsky et al., Image Segmentation by Branch-and-Mincut, In Proc. ECCV, 2008
- J. Carreira and C. Sminchisescu, Constrained Parametric Min-Cuts for Automatic Object Segmentation, In Proc. CVPR, 2010
- D. Kuettel and V. Ferrari, Figure-ground segmentation by transferring window masks, In Proc. CVPR, 2012

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Semantic Segmentation

- P. Kohli et al., Robust Higher Order Potentials for Enforcing Label Consistency, In Proc. CVPR, 2008
- J. Tighe and S. Lazebnik, SuperParsing: Scalable Nonparametric Image Parsing with Superpixels, In Proc. ECCV, 2010
- D. Eigen and R. Fergus, Nonparametric Image Parsing using Adaptive Neighbor Sets, In Proc. CVPR, 2012
- M. Rubinstein et al., Annotation Propagation in Large Image Databases via Dense Image Correspondence, In Proc. ECCV, 2012
- G. Singh and J. Kosecka, Nonparametric Scene Parsing with Adaptive Feature Relevance and Semantic Context, In Proc. CVPR, 2013

Visual Saliency

- T. Judd et al., Learning to predict where humans look, In Proc. ICCV, 2009
- H. Seo and P. Milanfar, Static and space-time visual saliency detection by self-resemblance, *Journal of Vision*, 2009
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- A. Borji and L. Itti, Exploiting Local and Global Patch Rarities for Saliency Detection, In Proc. CVPR, 2012
- R. Margolin et al., What Makes a Patch Distinct?, In Proc. CVPR, 2013
- P. Jiang et al, Salient Region Detection by UFO: Uniqueness, Focusness and Objectness, In Proc. ICCV, 2013