

References

- [1] X. Bai, Q. Li, L. Latecki, W. Liu, and Z. Tu. Shape band: A deformable object detection approach. In *Computer Vision and Pattern Recognition*, pages 1335–1342. IEEE, 2009.
- [2] X. Bai, X. Yang, L. Latecki, W. Liu, and Z. Tu. Learning context-sensitive shape similarity by graph transduction. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 32(5):861–874, 2010.
- [3] S. Belongie, J. Malik, and J. Puzicha. Matching shapes. In *International Conference on Computer Vision*, volume 1, pages 454–461. IEEE, 2001.
- [4] S. Belongie, J. Malik, and J. Puzicha. Shape matching and object recognition using shape contexts. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pages 509–522, 2002.
- [5] I. Biederman and G. Ju. Surface versus edge-based determinants of visual recognition. *Cognitive Psychology*, 20(1):38–64, 1988.
- [6] G. Brogefors. Hierarchical chamfer matching: A parametric edge matching algorithm. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pages 849–865, 1988.
- [7] A. Bronstein, M. Bronstein, A. Bruckstein, and R. Kimmel. Partial similarity of objects, or how to compare a centaur to a horse. *International Journal of Computer Vision*, 84(2):163–183, 2009.
- [8] N. Dalal and B. Triggs. Histograms of oriented gradients for human detection. In *Computer Vision and Pattern Recognition*, volume 1, pages 886–893. IEEE, 2005.
- [9] M. Donoser, H. Riemenschneider, and H. Bischof. Efficient partial shape matching of outer contours. In *Asian Conference on Computer Vision*, pages 281–292. Springer, 2010.
- [10] R. Duda, P. Hart, and D. Stork. *Pattern Classification and Scene Analysis 2nd ed.* 1995.
- [11] P. Felzenszwalb and J. Schwartz. Hierarchical matching of deformable shapes. In *Computer Vision and Pattern Recognition*, pages 1–8, 2007.
- [12] V. Ferrari, T. Tuytelaars, and L. Van Gool. Object detection by contour segment networks. In *European Conference on Computer Vision*, pages 14–28. Springer, 2006.
- [13] B. Frey and D. Dueck. Clustering by passing messages between data points. *Science*, 315(5814):972–976, 2007.
- [14] R. Gopalan, P. Turaga, and R. Chellappa. Articulation-invariant representation of non-planar shapes. In *European Conference on Computer Vision*, pages 286–299. Springer, 2010.
- [15] D. Huttenlocher, G. Klanderman, and W. Rucklidge. Comparing images using the hausdorff distance. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pages 850–863, 1993.

- [16] P. Kontschieder, M. Donoser, and H. Bischof. Beyond pairwise shape similarity analysis. In *Asian Conference on Computer Vision*, pages 655–666. Springer, 2010.
- [17] M. Körtgen, G. Park, M. Novotni, and R. Klein. 3d shape matching with 3d shape contexts. In *The 7th central European seminar on computer graphics*, volume 3, page 5, 2003.
- [18] P. D. Kovesi. MATLAB and Octave functions for computer vision and image processing. Centre for Exploration Targeting, School of Earth and Environment, The University of Western Australia. Available from: <http://www.csse.uwa.edu.au/~pk/research/matlabfns/>.
- [19] L. Latecki, R. Lakamper, and T. Eckhardt. Shape descriptors for non-rigid shapes with a single closed contour. In *Computer Vision and Pattern Recognition*, pages 424–429, 2000.
- [20] H. Ling and D. Jacobs. Using the inner-distance for classification of articulated shapes. In *Computer Vision and Pattern Recognition*, volume 2, pages 719–726. IEEE, 2005.
- [21] H. Ling and D. Jacobs. Shape classification using the inner-distance. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pages 286–299, 2007.
- [22] H. Ling, X. Yang, and L. Latecki. Balancing deformability and discriminability for shape matching. In *European Conference on Computer Vision*, pages 411–424. Springer, 2010.
- [23] H. Liu, L. Latecki, and S. Yan. Robust clustering as ensembles of affinity relations. In *Neural Information Processing Systems*, 2010.
- [24] H. Liu, X. Yang, L. Latecki, and S. Yan. Dense neighborhoods on affinity graph. *International Journal of Computer Vision*, pages 1–18, 2011.
- [25] D. Lowe. Object recognition from local scale-invariant features. In *Computer Vision and Pattern Recognition*, volume 2, pages 1150–1157. IEEE, 1999.
- [26] D. Lowe. Distinctive image features from scale-invariant keypoints. *International Journal of Computer Vision*, 60(2):91–110, 2004.
- [27] C. Lu, L. Latecki, N. Adluru, X. Yang, and H. Ling. Shape guided contour grouping with particle filters. In *Computer Vision and Pattern Recognition*, pages 2288–2295. IEEE, 2009.
- [28] T. Ma and L. Latecki. From partial shape matching through local deformation to robust global shape similarity for object detection. In *Computer Vision and Pattern Recognition*, pages 1441–1448. IEEE, 2011.
- [29] M. Pavan and M. Pelillo. Dominant sets and pairwise clustering. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 29(1):167–172, 2007.
- [30] E. Petrakis, A. Diplaros, and E. Milios. Matching and retrieval of distorted and occluded shapes using dynamic programming. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pages 1501–1516, 2002.

- [31] H. Riemenschneider, M. Donoser, and H. Bischof. Using partial edge contour matches for efficient object category localization. In *European Conference on Computer Vision*, pages 29–42. Springer, 2010.
- [32] J. Rodrigues, P. Aguiar, and J. Xavier. ANSIG – An analytic signature for permutation-invariant two-dimensional shape representation. In *Computer Vision and Pattern Recognition*, pages 1–8. IEEE, 2008.
- [33] T. Sebastian, P. Klein, and B. Kimia. On aligning curves. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 25(1):116–125, 2003.
- [34] J. Shi and J. Malik. Normalized cuts and image segmentation. 22(8):888–905, 2000.
- [35] J. Shotton, A. Blake, and R. Cipolla. Multiscale categorical object recognition using contour fragments. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, pages 1270–1281, 2007.
- [36] P. Srinivasan, L. Wang, and J. Shi. Grouping contours via a related image. In *Neural Information Processing Systems*, pages 1553–1560, 2008.
- [37] P. Srinivasan, Q. Zhu, and J. Shi. Many-to-one contour matching for describing and discriminating object shape. In *Computer Vision and Pattern Recognition*, pages 1673–1680. IEEE, 2010.
- [38] A. Temlyakov, B. Munsell, J. Waggoner, and S. Wang. Two perceptually motivated strategies for shape classification. In *Computer Vision and Pattern Recognition*, pages 2289–2296, 2010.
- [39] P. Tissainayagam and D. Suter. Assessing the performance of corner detectors for point feature tracking applications. *Image and Vision Computing*, 22(8):663–679, 2004.
- [40] U. Von Luxburg. A tutorial on spectral clustering. *Statistics and Computing*, 17(4):395–416, 2007.
- [41] R. Wang, S. Shan, X. Chen, and W. Gao. Manifold-manifold distance with application to face recognition based on image set. In *Computer Vision and Pattern Recognition*, pages 1–8. IEEE, 2008.
- [42] X. Wang, X. Bai, X. Yang, W. Liu, and L. Latecki. Maximal cliques that satisfy hard constraints with application to deformable object model learning. In *Neural Information Processing Systems*, 2011.
- [43] C. Xu, J. Liu, and X. Tang. 2d shape matching by contour flexibility. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 31(1):180–186, 2009.
- [44] X. Yang, S. Koknar-Tezel, and L. Latecki. Locally constrained diffusion process on locally densified distance spaces with applications to shape retrieval. In *Computer Vision and Pattern Recognition*, pages 357–364. IEEE, 2009.
- [45] X. Yang and L. Latecki. Affinity learning on a tensor product graph with applications to shape and image retrieval. In *Computer Vision and Pattern Recognition*, pages 2369–2376. IEEE, 2011.

- [46] Q. Zhu, L. Wang, Y. Wu, and J. Shi. Contour context selection for object detection: A set-to-set contour matching approach. In *European Conference on Computer Vision*, pages 774–787. Springer, 2008.