

# Bibliography

- [1] A.V. Aho, J.E. Hopcroft, and J.D. Ullman. *The design analysis of computer algorithms*. Addison-Wesley, 1976.
- [2] A.V. Aho, J.E. Hopcroft, and J.D. Ullman. *Data structures and algorithms*. Addison-Wesley, 1983.
- [3] J.A. Bangham, P. Chardaire, C.J. Pye, and P.D. Ling. Multiscale non-linear decomposition: the sieve decomposition theorem. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 18(5):529–539, May 1996.
- [4] J.A. Bangham, P.D. Ling, and R. Harvey. Scale-scape from nonlinear filters. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 18(5):520–528, May 1996.
- [5] J.A. Bangham and J. Ruiz. The segmentation of images via Scale-Space Trees. In *Proceedings of British Machine Vision Conference*, pages 33–43, Southampton (UK), September 1998.
- [6] J.A. Bangham, J. Ruiz, and R. Harvey. Robust morphological Scale-Space Trees. In *Proceedings of the Noblesse Workshop on Non-Linear Model Based Image Analysis*, pages 133–139, Glasgow (UK), July 1998.
- [7] J. Benois-Pineau, F. Morier, D. Barba, and H. Sanson. Hierarchical segmentation of video sequences for content manipulation and adaptive coding. *EURASIP Signal Processing*, 66(2):181–201, April 1998.
- [8] G.D. Borshukov, G. Bozdagi, Y. Altunbasak, and A.M. Tekalp. Motion segmentation by multistage affine classification. *IEEE Transactions on Image Processing*, 6(11):1591–1594, November 1997.
- [9] E.J. Breen and R. Jones. An attribute-based approach to mathematical morphology. In *Mathematical Morphology and Its Applications to Image Processing*, pages 41–48, Atlanta (GA), USA, May 1996. Kluwer Academic Publishers.
- [10] E.J. Breen and R. Jones. Attribute openings, thinings, and granulometries. *Computer Vision and Image Understanding*, 64(3):377–389, November 1996.

- [11] C.R. Brice and C.L. Fenema. Scene analysis using regions. *Artificial Intelligence*, pages 205–226, 1970.
- [12] P.J. Burt and E.H. Adelson. The Laplacian pyramid as a compact image code. *IEEE Transactions on Communications*, 31(4):532–540, April 1983.
- [13] R. Chiariglione. MPEG and Multimedia Communications. *IEEE Transactions on Circuits and Systems for Video Technology*, 7(1):5–18, February 1997.
- [14] G.C.H. Chuang and C.C. Kuo. Wavelet descriptor of planar curves: theory and applications. *IEEE Transactions on Image Processing*, 5(1):56–70, January 1996.
- [15] J. Cichosz and F. Meyer. Morphological image segmentation. In *Proceedings of Workshop of Image Analysis for Multimedia Interactive Services*, pages 161–166, Louvain-La-Neuve, Belgium, June 1997.
- [16] J. Crespo, J. Serra, and R.W. Schafer. Theoretical aspects of morphological filters by reconstruction. *Signal Processing*, 2(47):201–225, 1995.
- [17] J. Crespo, R.W. Shafer, J. Serra, C. Gratin, and F. Meyer. A flat zone approach: a general low-level region merging segmentation method. *EURASIP Signal Processing*, 62(1):37–60, October 1997.
- [18] J.L. Dugelay and H. Sanson. Differential methods for the identification of 2D and 3D motion models in image sequences. *EURASIP Image Communication*, 7:105–127, 1995.
- [19] P.E. Eren, Y. Altunbasak, and A.M. Tekalp. Region-based affine motion segmentation using color information. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, volume 4, pages 3005–3008, Munich, Germany, April 1997.
- [20] M. Flickner, H. Sawhney, W. Niblack, J. Ashley, Q. Huan, B. Dom, M. Gorkani, J. Hafner, D. Lee, D. Petkovic, D. Steele, and P. Yanker. Query by image and video content: the QBIC system. *IEEE Computer*, 28(9):23–32, September 1995.
- [21] L. Garrido, P. Salembier, and D. García. Extensive operators in partition lattices for image sequence analysis. *EURASIP Signal Processing*, 66(2):157–180, April 1998.
- [22] C. Gomila. *Mise en correspondance de partitions en vue du suivi d’objets*. PhD thesis, Ecole Nationale Supérieure des Mines de Paris, September 2001.
- [23] C. Gomila and F. Meyer. Levelings in vector spaces. In *IEEE International Conference on Image Processing (ICIP)*, volume 2, pages 929–933, Kobe, Japan, October 1999.
- [24] R.C. Gonzalez and R.E. Woods. *Digital Image Processing*. Addison-Wesley, 1992.

- [25] I. Grinias and G. Tziritas. Motion segmentation and tracking using a seeded region growing method. In *European Signal Processing Conference (EUSIPCO)*, pages 921–924, Rhodes, Greece, September 1998.
- [26] R.M. Haralick and L.G. Shapiro. Image segmentation techniques. *Computer Vision, Graphics, and Image Processing*, 1(29):100–132, January 1985.
- [27] H.J.A.M. Heijmans. Theoretical aspects of gray-level morphology. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 13(6):568–592, June 1991.
- [28] S.L Horowitz and T. Pavlidis. Picture segmentation by directed split and merge procedure. In *Proceedings 2sn International Joint Conference on Pattern Recognition*, pages 424–433, 1974.
- [29] D. Knuth. *The art of computer programming*, volume III (Sorting and Searching). Addison-Wesley, 1973.
- [30] D. Le Gall. MPEG: a video compression standard for multimedia applications. *Communications of the ACM*, 34:47–58, April 1991.
- [31] B. Marcotegui. Segmentation algorithm by multicriteria region merging. In *Mathematical Morphology and Its Applications to Image Processing*, pages 313–320, Atlanta (GA), USA, May 1996. Kluwer Academic Publishers.
- [32] B. Marcotegui. *Segmentation de sequences d’images en vue du codage*. PhD thesis, Ecole Nationale Supérieure de Mines de Paris, April 1996.
- [33] F. Meyer. Minimum spanning forest for morphological segmentation. In *Mathematical Morphology and its Applications to Image Processing, ISMM’94*, pages 77–84. Kluwer Academic Publisher, 1994.
- [34] F. Meyer. The dynamics of minima and contours. In *Mathematical Morphology and Its Applications to Image Processing*, pages 329–336, Atlanta (GA), USA, May 1996. Kluwer Academic Publishers.
- [35] F. Meyer. From connected operators to levelings. In *Mathematical Morphology and its Applications to Image and Signal Processing*, pages 191–198, Amsterdam (The Netherlands), June 1998.
- [36] F. Meyer. The Levelings. In *Mathematical Morphology and its Applications to Image and Signal Processing*, pages 199–206, Amsterdam (The Netherlands), June 1998.
- [37] F. Meyer and S. Beucher. Morphological segmentation. *Journal of Visual Communications and Image Representation*, 1(1):21–46, September 1990.

- [38] F. Mokhtarian and J. Abbasi, S. and Kittler. Efficient and robust retrieval by shape content through Curvature Scale Space. In *IDB-MMS*, 1996.
- [39] F. Mokhtarian, S. Abbasi, and J. Kittler. Robust and efficient shape indexing through Curvature Scale Space. In *British Machine Vision Conference (BMVC'96)*, 1996.
- [40] F. Mokhtarian, S. Abbasi, and J. Kittler. Efficient curvature-based shape representation for similarity retrieval. In *European Signal Processing Conference (EUSIPCO)*, pages 597–600, Rhodes, Greece, September 1998.
- [41] F. Mokhtarian and A.K. Mackworth. A theory of multiscale, curvature-based shape representation for planar curves. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 14(8):789–805, August 1992.
- [42] P. Monasse. *Morphological representation of digital images and application to registration*. PhD thesis, Université Paris IX-Dauphine, France, June 2000.
- [43] P. Monasse and F. Guichard. Fast computation of a contrast-invariant image representation. *IEEE Transactions on Image Processing*, 9(5):860–872, May 2000.
- [44] K. Moravec, R. Harvey, J.A. Bangham, and M. Fisher. Using an image tree to assist stereo matching. In *International Conference on Image Processing (ICIP)*, Kobe, Japan, October 1999.
- [45] F. Morier, J. Benois-Pineau, D. Barba, and H. Sanson. Robust segmentation of moving image sequences. In *IEEE International Conference on Image Processing (ICIP)*, volume 1, pages 719–722, Santa Barbara (CA), USA, October 1997.
- [46] O.J. Morris, M. de J. Lee, and A.G. Constantinides. Graph theory for image analysis: an approach based on the shortest spanning tree. *IEE Proceedings*, 133(2):146–152, April 1986.
- [47] MPEG. MPEG-7 visual part of eXperimentation Model Version 4.0. Technical Report ISO/IEC JTC1/SC29/WG11/N3068, MPEG, Maui, USA, December 1999.
- [48] W. Niblack, X. Zhu, J.L. Hafner, T. Breuel, D. Ponceleón, D. Petkovic, M. Flickner, E. Upfal, S.I. Nin, S. Sull, B. Dom, B.-L. Yeo, S. Srinivasan, D. Zivkovic, and M. Penner. Updates of the QBIC system. In *SPIE Storage and Retrieval for Image and Video Databases VI*, pages 150–173, San Jose (CA), USA, January 1998.
- [49] A. Ortega, K. Kamchandran, and M. Vetterli. Optimal buffer-constrained source quantization and fast approximations. In *IEEE International Symposium on Circuits and Systems*, volume 1, May 1992.

- [50] M. Ortega, Y. Rui, K. Chakrabarti, and A. Warshavsky. Supporting ranked boolean similarity queries in MARS. *IEEE Transactions on Knowledge and Data Engineering*, 10(6):905–925, December 1998.
- [51] N.R. Pal and S.K. Pal. A review on image segmentation techniques. *Pattern Recognition*, pages 1277–1294, 1993.
- [52] M. Pardàs, P. Salembier, F. Marqués, and R. Morros. Partition tree for a segmentation-based video coding system. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'96)*, volume IV, pages 1983–1986, Atlanta (GA), USA, May 1996.
- [53] S. Peleg and H. Rom. Motion based segmentation. In *10th International Conference on Pattern Recognition*, June 1990.
- [54] F.K. Potjer. Region adjacency graphs and connected morphological operators. In *Mathematical Morphology and Its Applications to Image Processing*, pages 111–118, Atlanta (GA), USA, May 1996. Kluwer Academic Publishers.
- [55] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery. *Numerical Recipes in C: the art of scientific computing*. Cambridge University Press, 2nd edition, 1992.
- [56] H. Radha, R. Leonardi, and M. Vetterli. A multiresolution approach to binary tree representations of images. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2653–2656, May 1991.
- [57] H. Radha, M. Vetterli, and R. Leonardi. Image compression using Binary Space Partitioning Trees. *IEEE Transactions on Image Processing*, 5(12):1610–1624, December 1996.
- [58] K. Ramchandran and M. Vetterli. Best wavelet packet bases in a rate-distortion sense. *IEEE Transactions on Image Processing*, 2:160–175, April 1993.
- [59] E. Reusens. Joint optimization of representation model and frame segmentation for generic video compression. *EURASIP Signal Processing*, 46:105–117, September 1995.
- [60] Y. Rui, T.S. Huang, and S.-F. Chang. Image retrieval: current techniques, promising directions and open issues. *Journal of Visual Communication and Image Representation*, 10:39–62, March 1999.
- [61] Y. Rui, T.S. Huang, and S. Mehrotra. Content-based image retrieval with relevance feedback in MARS. In *International Conference on Image Processing (ICIP)*, Santa Barbara (CA), USA, October 1997.

- [62] Y. Rui, T.S. Huang, and S. Mehrotra. Relevance feedback techniques in interactive content-based image retrieval. In *SPIE Storage and Retrieval of Image and Video Databases VI*, pages 25–36, San Jose (CA), USA, January 1998.
- [63] Y. Rui, T.S. Huang, M. Ortega, and S. Mehrotra. Relevance feedback: a power tool for interactive content-based image retrieval. *IEEE Transactions on Circuits and Video Technology*, 8(5):644–655, September 1998.
- [64] J. Ruiz Hidalgo. The representation of images using Scale Ttrees. Master’s thesis, School of Information Systems, University of East Anglia, Norwich (UK), October 1999.
- [65] E. Saber and A.M. Tekalp. Region-based shape matching for automatic image annotation and query-by-example. *Journal of Visual Communication and Image Representation*, 8(1):3–20, March 1997.
- [66] P. Salembier. Morphological multiscale representation for image coding. *EURASIP Signal Processing*, 46:359–386, September 1994.
- [67] P. Salembier and L. Garrido. Binary Partition Tree as an efficient representation for filtering, segmentation and information retrieval. In *International Conference on Image Processing (ICIP)*, Chicago (IL), USA, October 1998.
- [68] P. Salembier and L. Garrido. Binary Partition Tree as an efficient representation for image processing, segmentation and information retrieval. *IEEE Transactions on Image Processing*, 9(4):561–576, April 2000.
- [69] P. Salembier and L. Garrido. Connected operators based on region-tree pruning. In *Mathematical Morphology and its Applications to Image and Signal Processing*, Palo Alto (CA), USA, June 2000.
- [70] P. Salembier, L. Garrido, and D. García. Auto-dual connected operators based on iterative merging algorithms. In *Mathematical Morphology and Its Applications to Image Processing (ISMM)*, Amsterdam, The Netherlands, June 1998.
- [71] P. Salembier, J. Llach, and L. Garrido. Visual segment tree creation for MPEG-7 description schemes. In *International Conference on Multimedia and Expo*, New York City (NY), USA, July 2000.
- [72] P. Salembier, F. Marqués, M. Pardàs, R. Morros, I. Corset, S. Jeannin, L. Bouchard, F. Meyer, and B. Marcotegui. Segmentation-based video coding system allowing the manipulation of objects. *IEEE Transactions on Circuits and Systems for Video Technology*, 7(1):60–73, February 1997.

- [73] P. Salembier, A. Oliveras, and L. Garrido. Motion connected operators for image sequences. In *European Signal Processing Conference (EUSIPCO)*, volume II, pages 1083–1086, Trieste, Italy, September 1996.
- [74] P. Salembier, A. Oliveras, and L. Garrido. Anti-extensive connected operators for image and sequence processing. *IEEE Transactions on Image Processing*, 7(4):555–570, April 1998.
- [75] P. Salembier and H. Sanson. Robust motion estimation using connected operators. In *IEEE International Conference on Image Processing (ICIP)*, volume 1, pages 77–80, Santa Barbara (CA), USA, October 1997.
- [76] P. Salembier and J. Serra. Flat zones filtering, connected operators and filters by reconstruction. *IEEE Transactions on Image Processing*, 7:1153–1160, August 1995.
- [77] P. Salembier, L. Torres, F. Meyer, and C. Gu. Region-based video coding using mathematical morphology. *Proceedings of the IEEE*, 83(6):843–856, June 1995.
- [78] H. Sanson. Toward a robust parametric identification of motion on region of arbitrary shape by non-linear optimization. In *IEEE International Conference on Image Processing (ICIP)*, volume 1, pages 203–206, October 1995.
- [79] J. Serra. *Image Analysis and Mathematical Morphology*. Academic Press, 1982.
- [80] J. Serra. *Image Analysis and Mathematical Morphology*, volume II: Theoretical Advances. Academic Press, 1988.
- [81] J. Serra and P. Salembier. Connected operators and pyramids. In *Proceedings of the SPIE, Image algebra and morphological image processing IV*, volume 2030, pages 63–76, San Diego (CA), USA, July 1993.
- [82] E. Shusterman and M. Feder. Image compression via improved quadtree decomposition algorithms. *IEEE Transactions on Image Processing*, 3(2):207–215, March 1994.
- [83] T. Sikora. The MPEG-7 visual standard for content description – and overview. *IEEE Transactions on Circuits and Systems for Video Technology*, 11(6):696–702, June 2001.
- [84] P. De Smet and D. De Vleeschauwer. Motion-based segmentation using a thresholded merging strategy on watershed segments. In *IEEE International Conference on Image Processing (ICIP)*, volume 2, pages 490–493, Santa Barbara (CA), USA, October 1997.
- [85] J.R. Smith and S.-F. Chang. *Intelligent Multimedia Information Retrieval*, chapter Querying by color regions using the VisualSEEK content-based visual query system. IJCAI, 1996.

- [86] J.R. Smith and S.-F. Chang. VisualSEEk: a fully automated content-based image query system. In *ACM Multimedia*, November 1996.
- [87] P. Soille. Generalized geodesic distances applied to interpolation and shape description. In J. Serra and P. Soille, editors, *Mathematical Morphology and its applications to image processing*, pages 193–200. Kluwer Academic, Dordrecht 1994.
- [88] G.J. Sullivan and R.L. Baker. Efficient quadtree coding of images and video. *IEEE Transactions on Image Processing*, 3(3):327–331, May 1994.
- [89] M.J. Swain and D.H. Ballard. Color indexing. *International Journal of Computer Vision*, 7(1):11–32, January 1991.
- [90] L. Torres, D. García, and A. Mates. A robust motion estimation and segmentation approach to represent moving images with layers. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2981–2984, Munich, Germany, April 1997.
- [91] C. Vachier and F. Meyer. Extinction value: a new measure of persistence. In *Workshop on Nonlinear Signal and Image Processing (NSIP)*, pages 254–257, Halkidiki (Greece), June 1995.
- [92] P.J. van Otterloo. *A Contour-Oriented Approach to Shape Analysis*. Prentice-Hall, 1991.
- [93] L. Vincent. Grayscale area openings and closings, their efficient implementation and applications. In J. Serra and P. Salembier, editors, *Mathematical Morphology and its Applications to Image Processing*, pages 22–27, Barcelona, Spain, May 1993. UPC.
- [94] L. Vincent. Morphological grayscale reconstruction in image analysis: applications and efficient algorithms. *IEEE Transactions on Image Processing*, 2:176–201, April 1993.
- [95] L. Vincent and P. Soille. Watersheds in digital spaces: and efficient algorithm based on immersion simulations. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 12(39):1845–1855, December 1991.
- [96] A.J. Viterbi and J.K. Omura. *Principles of Digital Communications and Coding*. New York McGraw-Hill, 1979.
- [97] T. Vlachos and A.G. Constantinides. Graph-theoretical approach to colour picture segmentation and contour classification. *IEE Proceedings*, 130(1):36–45, February 1993.
- [98] G.K. Wallace. The JPEG still picture compression standard. *Communications of the ACM*, 34(4), April 1991.



- 
- [99] N. Wirth. *Algorithms & data structures*. Prentice-Hall, 1986.
  - [100] X. Yaowu, E. Saber, and A.M Tekalp. Object formation by learning in visual databases using hierarchical content description. In *International Conference on Image Procesing (ICIP)*, Kobe (Japan), October 1999.
  - [101] F. Zanoguera, B. Marcotegui, and Meyer. F. A toolbox for interactive segmentation based on nested partitions. In *Proceedings of the IEEE International Conference on Image Processing*, volume 1, pages 21–25, Kobe, Japan, October 1999.