1987 Index
IEEE Transactions on Pattern Analysis and Machine Intelligence
Vol. PAMI-9

This index covers all items—papers, correspondence, reviews, etc.—that appeared in this periodical during 1987, and items from previous years that were commented upon or corrected in 1987.

The *Author Index* contains the primary entry for each item, listed under the first author's name, and cross-references from all coauthors. The *Subject Index* contains several entries for each item under appropriate subject headings, and subject cross-references.

It is always necessary to refer to the primary entry in the *Author Index* for the exact title, coauthors, and comments/corrections.

AUTHOR INDEX

A

Aggarwal, J. K., *see* Wang, Y. F., *T-PAMI Jan 87* 129–136
Aggarwal, J. K., *see* Lee, S.-Y., *T-PAMI Jul 87* 590–594
Ahuja, Narendra, *see* Weng, Juyang, *T-PAMI May 87* 370–389
Almuallim, Hussein, and Shoichiro Yamaguchi. A method of recognition of Arabic cursive handwriting (Corresp.); *T-PAMI Sep 87* 715–722
Antoy, Sergio. Modeling and isomorphisms of positional board games; *T-PAMI Sep 87* 669–675
Arun, K. S., T. S. Huang, and S. D. Blostein. Least-squares fitting of two 3-D point sets (Corresp.); *T-PAMI Sep 87* 698–700
Asada, Minoru, *see* Xu, Gang, *T-PAMI Mar 87* 332–336

B

Bailey, Thomas, and John Cowles. A convex Hull inclusion test (Corresp.); *T-PAMI Mar 87* 312–316
Baird, Henry S., *see* Khan, Simon, *T-PAMI Mar 87* 274–288
Bartlett, Sandra L., *see* Jain, Ramesh, *T-PAMI May 87* 356–369
Baugher, Ernest S., *see* Meer, Peter, *T-PAMI Jul 87* 512–522
Bergholm, Fredrik. Edge focusing; *T-PAMI Nov 87* 726–741
Bloomberg, Sandra H., *see* Pizer, Stephen M., *T-PAMI Jul 87* 505–511
Blostein, S. D., *see* Arun, K. S., *T-PAMI Sep 87* 698–700
Blostein, Steven D., and Thomas S. Huang. Error analysis in stereo determination of 3-D point positions; *T-PAMI Nov 87* 752–765
Boley, Daniel L., *see* Kearney, Joseph K., *T-PAMI Mar 87* 229–244
Bovik, Alan Conrad, Thomas S. Huang, and David C. Munson, Jr. The effect of median filtering on edge estimation and detection; *T-PAMI Mar 87* 181–194
Boyer, K. L., and A. C. Kak. Color-encoded structured light for rapid active ranging; *T-PAMI Jan 87* 14–28
Browse, Roger A. Feature-based tactile object recognition; *T-PAMI Nov 87* 779–786
Buxton, Bernard F., *see* Murray, David W., *T-PAMI Mar 87* 220–228

C

Carlotto, Mark J. Histogram analysis using a scale-space approach (Corresp.); *T-PAMI Jan 87* 121–129
Carroll, Robert L., Jr., *see* Hambrick, Larry N., *T-PAMI Sep 87* 597–607
Casacuberta, Francisco, *see* Garcia, Pedro, *T-PAMI Nov 87* 841–845
Chang, Shi-Kuo, Qing-Yun Shi, and Cheng-Wen Yan. Iconic indexing by 2-D strings; *T-PAMI May 87* 413–428
Chellappa, R., *see* Lin, C. C., *T-PAMI Sep 87* 686–690
Chen, Bor-Dong, and Pepe Siy. Forward/backward contour tracing with feedback (Corresp.); *T-PAMI May 87* 438–446
Chen, Chaur-Chin, *see* Jain, Anil K., *T-PAMI Sep 87* 628–633
Chen, J. S., A. Huertas, and G. Medioni. Fast convolution with Laplacian-of-Gaussian masks (Corresp.); *T-PAMI Jul 87* 584–590
Chen, Robert Yu, *see* Keller, James M., *T-PAMI Sep 87* 621–627
Cheng, Wei-Kang, *see* Jansen, Ben H., *T-PAMI Sep 87* 707–710
Chiu, David K. Y., *see* Wong, Andrew K. C., *T-PAMI Nov 87* 796–805
Cohen, Arnon, *see* Haimi-Cohen, Raziel, *T-PAMI Jan 87* 137–142
Cohen, Fernand S., and David B. Cooper. Simple parallel hierarchical and relaxation algorithms for segmenting noncausal Markovian random fields; *T-PAMI Mar 87* 195–219
Cooper, David B., *see* Cohen, Fernand S., *T-PAMI Mar 87* 195–219
Cowles, John, *see* Bailey, Thomas, *T-PAMI Mar 87* 312–316
Crowley, James L., and Arthur C. Sanderson. Multiple resolution representation and probabilistic matching of 2-D gray-scale shape (Corresp.); *T-PAMI Jan 87* 113–121
Crownover, Richard M., *see* Keller, James M., *T-PAMI Sep 87* 621–627

D

De Castro, E., and C. Morandi. Registration of translated and rotated images using finite Fourier transforms (Corresp.); *T-PAMI Sep 87* 700–703
De Mori, Renato, Lily Lam, and Michel Gilloux. Learning and plan refinement in a knowledge-based system for automatic speech recognition; *T-PAMI Mar 87* 289–305
Derin, Haluk, and Howard Elliott. Modeling and segmentation of noisy and textured images using Gibbs random fields; *T-PAMI Jan 87* 39–55
Derin, Haluk. Estimating components of univariate Gaussian mixtures using Prony's method (Corresp.); *T-PAMI Jan 87* 142–148
Dhome, M., and T. Kasvand. Polyhedra recognition by hypothesis accumulation (Corresp.); *T-PAMI May 87* 429–438
Dill, Andreas R., Martin D. Levine, and Peter B. Noble. Multiple resolution skeletons; *T-PAMI Jul 87* 495–504
Dinstein, Its'hak, *see* Sanz, Jorge L. C., *T-PAMI Jan 87* 160–168
Dixit, V., and D. I. Moldovan. Semantic network array processor and its applications to image understanding (Corresp.); *T-PAMI Jan 87* 153–160
Dodd, Nigel. Multispectral texture synthesis using fractal concepts (Corresp.); *T-PAMI Sep 87* 703–707
Dravida, Subrahmanyam, *see* Woods, John W., *T-PAMI Mar 87* 245–253
Drumheller, Michael. Mobile robot localization using sonar (Corresp.); *T-PAMI Mar 87* 325–332
Dubes, Richard C., *see* Jain, Anil K., *T-PAMI Sep 87* 628–633

E

Einspahr, Kent, *see* Nagy, George, *T-PAMI Sep 87* 710–715
Elliott, Howard, *see* Derin, Haluk, *T-PAMI Jan 87* 39–55

F

Fang, Zhixi, Xiaobo Li, and Lionel M. Ni. Parallel algorithms for image template matching on hypercube SIMD computers (Corresp.); *T-PAMI Nov 87* 835–841
Ferrari, L. A., P. V. Sankar, S. Shinnaka, and J. Sklansky. Recursive algorithms for implementing digital image filters (Corresp.); *T-PAMI May 87* 461–466
Fukunaga, Keinosuke, and Donald M. Hummels. Bias of nearest neighbor error estimates; *T-PAMI Jan 87* 103–112
Fukunaga, Keinosuke, and Donald M. Hummels. Bayes error estimation using Parzen and k-NN procedures; *T-PAMI Sep 87* 634–643

G

Garcia, Pedro, Enrique Vidal, and Francisco Casacuberta. Local languages, the successor method, and a step towards a general methodology for the inference of regular grammars (Corresp.); *T-PAMI Nov 87* 841–845
Gilloux, Michel, *see* De Mori, Renato, *T-PAMI Mar 87* 289–305
Gonzalez, Rafael C., *see* Pérez, Arnulfo, *T-PAMI Nov 87* 742–751
Grimson, W. Eric L., and Tomás Lozano-Pérez. Localizing overlapping parts by searching the interpretation tree; *T-PAMI Jul 87* 469–482
Gu, Jun, Wei Wang, and Thomas C. Henderson. A parallel architecture for discrete relaxation algorithm; *T-PAMI Nov 87* 816–831
Gu, W. K., J. Y. Yang, and Thomas S. Huang. Matching perspective views of a polyhedron using circuits; *T-PAMI May 87* 390–400

H

Haimi-Cohen, Raziel, and Arnon Cohen. Gradient-type algorithms for partial singular value decomposition (Corresp.); *T-PAMI Jan 87* 137–142
Hambrick, Larry N., Murray H. Loew, and Robert L. Carroll, Jr. The entry – exit method of shadow boundary segmentation; *T-PAMI Sep 87* 597–607
Haralick, Robert M., Stanley R. Sternberg, and Xinhua Zhuang. Image analysis using mathematical morphology; *T-PAMI Jul 87* 532–550
Heinonen, Pekka, *see* Nieminen, Ari, *T-PAMI Jan 87* 74–90
Henderson, Thomas C., *see* Gu, Jun, *T-PAMI Nov 87* 816–831
Hinkle, Eric B., *see* Petkovic, Dragutin, *T-PAMI Mar 87* 306–311
Hoffman, Richard L., and Anil K. Jain. Sparse decompositions for exploratory pattern analysis; *T-PAMI Jul 87* 551–560

Hoffman, Richard, and Anil K. Jain. Segmentation and classification of range images; *T-PAMI Sep 87* 608–620
Horaud, Radu. New methods for matching 3-D objects with single perspective views; *T-PAMI May 87* 401–412
Horn, Berthold K. P., *see* Negahdaripour, Shahriar, *T-PAMI Jan 87* 168–176
Huang, Thomas S., *see* Bovik, Alan Conrad, *T-PAMI Mar 87* 181–194
Huang, Thomas S., *see* Weng, Juyang, *T-PAMI May 87* 370–389
Huang, Thomas S., *see* Gu, W. K., *T-PAMI May 87* 390–400
Huang, Thomas S., *see* Arun, K. S., *T-PAMI Sep 87* 698–700
Huang, Thomas S., *see* Blostein, Steven D., *T-PAMI Nov 87* 752–765
Huertas, A., *see* Chen, J. S., *T-PAMI Jul 87* 584–590
Hummels, Donald M., *see* Fukunaga, Keinosuke, *T-PAMI Jan 87* 103–112
Hummels, Donald M., *see* Fukunaga, Keinosuke, *T-PAMI Sep 87* 634–643

I

Ihara, Jiro. Extension of conditional probability and measures of belief and disbelief in a hypothesis based on uncertain evidence; *T-PAMI Jul 87* 561–568
Illingworth, J., and J. Kittler. The adaptive Hough transform (Corresp.); *T-PAMI Sep 87* 690–698

J

Jain, Anil K., *see* Hoffman, Richard L., *T-PAMI Jul 87* 551–560
Jain, Anil K., *see* Hoffman, Richard, *T-PAMI Sep 87* 608–620
Jain, Anil K., Richard C. Dubes, and Chaur-Chin Chen. Bootstrap techniques for error estimation; *T-PAMI Sep 87* 628–633
Jain, Ramesh, *see* Sethi, Ishwar K., *T-PAMI Jan 87* 56–73
Jain, Ramesh, Sandra L. Bartlett, and Nancy O'Brien. Motion stereo using ego-motion complex logarithmic mapping; *T-PAMI May 87* 356–369
Jansen, Ben H., and Wei-Kang Cheng. Classification of sleep patterns by means of Markov modeling and correspondence analysis (Corresp.); *T-PAMI Sep 87* 707–710

K

Kak, A. C., *see* Boyer, K. L., *T-PAMI Jan 87* 14–28
Kalayeh, H. M., and D. A. Landgrebe. Stochastic model utilizing spectral and spatial characteristics (Corresp.); *T-PAMI May 87* 457–461
Kashyap, Rangasami L., *see* Koch, Mark W., *T-PAMI Jul 87* 483–494
Kasvand, T., *see* Dhome, M., *T-PAMI May 87* 429–438
Katsinis, C., and A. D. Poularikis. Analysis of a sampling technique applied to biological images (Corresp.); *T-PAMI Nov 87* 832–835
Kearney, Joseph K., William B. Thompson, and Daniel L. Boley. Optical flow estimation: An error analysis of gradient-based methods with local optimization; *T-PAMI Mar 87* 229–244
Keller, James M., Richard M. Crownover, and Robert Yu Chen. Characteristics of natural scenes related to the fractal dimension; *T-PAMI Sep 87* 621–627
Khan, Simon, Theo Pavlidis, and Henry S. Baird. On the recognition of printed characters of any font and size; *T-PAMI Mar 87* 274–288
Kim, Chul E., *see* Krishnaswamy, Ravinder, *T-PAMI Mar 87* 316–321
Kimura, Fumitaka, Kenji Takashina, Shinji Tsuruoka, and Yasuji Miyake. Modified quadratic discriminant functions and the application to Chinese character recognition (Corresp.); *T-PAMI Jan 87* 149–153
Kittler, J., *see* Illingworth, J., *T-PAMI Sep 87* 690–698
Koch, Mark W., and Rangasami L. Kashyap. Using polygons to recognize and locate partially occluded objects; *T-PAMI Jul 87* 483–494
Kojima, Yurie, *see* Tanaka, Eiichi, *T-PAMI Nov 87* 806–815
Koplowitz, J., and A. P. Sundar Raj. A robust filtering algorithm for subpixel reconstruction of chain coded line drawings (Corresp.); *T-PAMI May 87* 451–457
Krishnaswamy, Ravinder, and Chul E. Kim. Digital parallelism, perpendicularity, and rectangles (Corresp.); *T-PAMI Mar 87* 316–321
Kuc, Roman, and M. W. Siegel. Physically based simulation model for acoustic sensor robot navigation; *T-PAMI Nov 87* 766–778
Kundu, Amlan, and Sanjit K. Mitra. A new algorithm for image edge extraction using a statistical classifier approach (Corresp.); *T-PAMI Jul 87* 569–577

L

Lam, Lily, *see* De Mori, Renato, *T-PAMI Mar 87* 289–305
Landgrebe, D. A., *see* Kalayeh, H. M., *T-PAMI May 87* 457–461
Leclerc, Yvan G., and Steven W. Zucker. The local structure of image discontinuities in one dimension; *T-PAMI May 87* 341–355
Lee, S.-Y., and J. K. Aggarwal. Parallel 2-D convolution on a mesh connected array processor (Corresp.); *T-PAMI Jul 87* 590–594
Levine, Martin D., *see* Dill, Andreas R., *T-PAMI Jul 87* 495–504
Li, Xiaobo, *see* Fang, Zhixi, *T-PAMI Nov 87* 835–841
Lin, C. C., and R. Chellappa. Classification of partial 2-D shapes using Fourier descriptors (Corresp.); *T-PAMI Sep 87* 686–690
Loew, Murray H., *see* Hambrick, Larry N., *T-PAMI Sep 87* 597–607
Loizou, George, and Stephen J. Maybank. The nearest neighbor and the Bayes error rates; *T-PAMI Mar 87* 254–262
Longstaff, Ian D. On extensions to Fisher's linear discriminant function (Corresp.); *T-PAMI Mar 87* 321–325
Lozano-Pérez, Tomás, *see* Grimson, W. Eric L., *T-PAMI Jul 87* 469–482

M

Maybank, Stephen J., *see* Loizou, George, *T-PAMI Mar 87* 254–262
Mediavilla, Ricardo, *see* Woods, John W., *T-PAMI Mar 87* 245–253
Medioni, G., *see* Chen, J. S., *T-PAMI Jul 87* 584–590
Meer, Peter, Ernest S. Baugher, and Azriel Rosenfeld. Frequency domain analysis and synthesis of image pyramid generating kernels; *T-PAMI Jul 87* 512–522
Mitiche, A., *see* Wang, Y. F., *T-PAMI Jan 87* 129–136
Mitra, Sanjit K., *see* Kundu, Amlan, *T-PAMI Jul 87* 569–577
Miyake, Yasuji, *see* Kimura, Fumitaka, *T-PAMI Jan 87* 149–153
Moldovan, D. I., *see* Dixit, V., *T-PAMI Jan 87* 153–160
Morandi, C., *see* De Castro, E., *T-PAMI Sep 87* 700–703
Morgera, Salvatore D. Toward a fundamental theory of optimal feature selection—II: Implementation and computational complexity; *T-PAMI Jan 87* 29–38
Munson, David C., Jr., *see* Bovik, Alan Conrad, *T-PAMI Mar 87* 181–194
Murray, David W., and Bernard F. Buxton. Scene segmentation from visual motion using global optimization; *T-PAMI Mar 87* 220–228

N

Nagy, George, Sharad Seth, and Kent Einspahr. Decoding substitution ciphers by means of word matching with application to OCR (Corresp.); *T-PAMI Sep 87* 710–715
Nalwa, Vishvjit S. Edge-detector resolution improvement by image interpolation (Corresp.); *T-PAMI May 87* 446–451
Negahdaripour, Shahriar, and Berthold K. P. Horn. Direct passive navigation (Corresp.); *T-PAMI Jan 87* 168–176
Neuvo, Yrjö, *see* Nieminen, Ari, *T-PAMI Jan 87* 74–90
Ni, Lionel M., *see* Fang, Zhixi, *T-PAMI Nov 87* 835–841
Nieminen, Ari, Pekka Heinonen, and Yrjö Neuvo. A new class of detail-preserving filters for image processing; *T-PAMI Jan 87* 74–90
Noble, Peter B., *see* Dill, Andreas R., *T-PAMI Jul 87* 495–504

O

O'Brien, Nancy, *see* Jain, Ramesh, *T-PAMI May 87* 356–369
Oliver, William R., *see* Pizer, Stephen M., *T-PAMI Jul 87* 505–511
Oommen, B. John. Recognition of noisy subsequences using constrained edit distances; *T-PAMI Sep 87* 676–685

P

Pavlidis, Theo, *see* Khan, Simon, *T-PAMI Mar 87* 274–288
Pentland, Alex Paul. A new sense for depth of field; *T-PAMI Jul 87* 523–531
Pérez, Arnulfo, and Rafael C. Gonzalez. An iterative thresholding algorithm for image segmentation; *T-PAMI Nov 87* 742–751
Petkovic, Dragutin, and Eric B. Hinkle. A rule-based system for verifying engineering specifications in industrial visual inspection applications; *T-PAMI Mar 87* 306–311
Pizer, Stephen M., William R. Oliver, and Sandra H. Bloomberg. Hierarchical shape description via the multiresolution symmetric axis transform; *T-PAMI Jul 87* 505–511
Poularikis, A. D., *see* Katsinis, C., *T-PAMI Nov 87* 832–835

R

Raj, A. P. Sundar, *see* Koplowitz, J., *T-PAMI May 87* 451–457
Rosenfeld, Azriel, *see* Meer, Peter, *T-PAMI Jul 87* 512–522
Rueb, Kurt D., and Andrew K. C. Wong. Structuring free space as a hypergraph for roving robot path planning and navigation; *T-PAMI Mar 87* 263–273

S

Sabin, Michael J. Convergence and consistency of fuzzy *c*-means/ISODATA algorithms; *T-PAMI Sep 87* 661–668
Sanderson, Arthur C., *see* Crowley, James L., *T-PAMI Jan 87* 113–121
Sankar, P. V., *see* Ferrari, L. A., *T-PAMI May 87* 461–466
Sanz, Jorge L. C., and Its'hak Dinstein. Projection-based geometrical feature extraction for computer vision: Algorithms in pipeline architectures (Corresp.); *T-PAMI Jan 87* 160–168
Schalkoff, R. J. Dynamic imagery modeling and motion estimation using weak formulations (Corresp.); *T-PAMI Jul 87* 578–584
Seth, Sharad, *see* Nagy, George, *T-PAMI Sep 87* 710–715
Sethi, Ishwar K., and Ramesh Jain. Finding trajectories of feature points in a monocular image sequence; *T-PAMI Jan 87* 56–73
Shi, Qing-Yun, *see* Chang, Shi-Kuo, *T-PAMI May 87* 413–428
Shinnaka, S., *see* Ferrari, L. A., *T-PAMI May 87* 461–466
Siegel, M. W., *see* Kuc, Roman, *T-PAMI Nov 87* 766–778
Siy, Pepe, *see* Chen, Bor-Dong, *T-PAMI May 87* 438–446
Sklansky, J., *see* Ferrari, L. A., *T-PAMI May 87* 461–466

Sternberg, Stanley R., *see* Haralick, Robert M., *T-PAMI Jul 87* 532–550
Stirling, Wynn C., and A. Lee Swindlehurst. Decision-directed multivariate empirical Bayes classification with nonstationary priors; *T-PAMI Sep 87* 644–660
Suen, Ching Y., *see* Wang, Qing Ren, *T-PAMI Jan 87* 91–102
Sundar Raj, A. P., *see* Raj, A. P. Sundar
Swindlehurst, A. Lee, *see* Stirling, Wynn C., *T-PAMI Sep 87* 644–660

T

Takashina, Kenji, *see* Kimura, Fumitaka, *T-PAMI Jan 87* 149–153
Tanaka, Eiichi, and Yurie Kojima. A high speed string correction method using a hierarchical file; *T-PAMI Nov 87* 806–815
Thompson, William B., *see* Kearney, Joseph K., *T-PAMI Mar 87* 229–244
Tsuji, Saburo, *see* Xu, Gang, *T-PAMI Mar 87* 332–336
Tsuruoka, Shinji, *see* Kimura, Fumitaka, *T-PAMI Jan 87* 149–153

V

Vidal, Enrique, *see* Garcia, Pedro, *T-PAMI Nov 87* 841–845

W

Wandell, Brian A. The synthesis and analysis of color images; *T-PAMI Jan 87* 2–13
Wang, Qing Ren, and Ching Y. Suen. Large tree classifier with heuristic search and global training; *T-PAMI Jan 87* 91–102
Wang, Wei, *see* Gu, Jun, *T-PAMI Nov 87* 816–831
Wang, Y. F., A. Mitiche, and J. K. Aggarwal. Computation of surface orientation and structure of objects using grid coding (Corresp.); *T-PAMI Jan 87* 129–136
Weng, Juyang, Thomas S. Huang, and Narendra Ahuja. 3-D motion estimation, understanding, and prediction from noisy image sequences; *T-PAMI May 87* 370–389
Wilson, Roland. Finite prolate spheroidal sequences and their applications—I: Generation and properties; *T-PAMI Nov 87* 787–795
Wong, Andrew K. C., *see* Rueb, Kurt D., *T-PAMI Mar 87* 263–273
Wong, Andrew K. C., and David K. Y. Chiu. Synthesizing statistical knowledge from incomplete mixed-mode data; *T-PAMI Nov 87* 796–805
Woods, John W., Subrahmanyam Dravida, and Ricardo Mediavilla. Image estimation using doubly stochastic Gaussian random field models; *T-PAMI Mar 87* 245–253

X

Xu, Gang, Saburo Tsuji, and Minoru Asada. A motion stereo method based on coarse-to-fine control strategy (Corresp.); *T-PAMI Mar 87* 332–336

Y

Yamaguchi, Shoichiro, *see* Almuallim, Hussein, *T-PAMI Sep 87* 715–722
Yan, Cheng-Wen, *see* Chang, Shi-Kuo, *T-PAMI May 87* 413–428
Yang, J. Y., *see* Gu, W. K., *T-PAMI May 87* 390–400

Z

Zhuang, Xinhua, *see* Haralick, Robert M., *T-PAMI Jul 87* 532–550
Zucker, Steven W., *see* Leclerc, Yvan G., *T-PAMI May 87* 341–355

SUBJECT INDEX

A

Acoustic navigation; cf. Sonar navigation
Animals
spiral sampling of binary zooplankton images for classification. *Katsinis, C., + , T-PAMI Nov 87* 832–835
Approximation methods; cf. Interpolation; Least-squares approximation
Arabic characters
Arabic cursive handwriting recognition. *Almuallim, Hussein, + , T-PAMI Sep 87* 715–722
Array processing
parallel 2-D convolution on mesh-connected array processor. *Lee, S.-Y., + , T-PAMI Jul 87* 590–594
semantic network array processor and applications to image understanding. *Dixit, V., + , T-PAMI Jan 87* 153–160
Autonomous vehicles; cf. Robots, locomotion
Awards
establishment of King-Sun Fu Award. *T-PAMI Sep 87* 723

B

Bayes procedures
Bayes error estimation using Parzen and *k*-NN procedures. *Fukunaga, Keinosuke, + , T-PAMI Sep 87* 634–643
bias of finite-sample nearest-neighbor estimates. *Fukunaga, Keinosuke, + , T-PAMI Jan 87* 103–112
decision-directed multivariate empirical Bayes classification with nonstationary priors. *Stirling, Wynn C., + , T-PAMI Sep 87* 644–660
nearest-neighbor and Bayes pattern classification methods; error rates. *Loizou, George, + , T-PAMI Mar 87* 254–262
Blood
computing skeletons of amorphous, bloblike, noisy images; application to study of leukocyte locomotion. *Dill, Andreas R., + , T-PAMI Jul 87* 495–504

C

Character recognition
convex Hull inclusion test. *Bailey, Thomas, + , T-PAMI Mar 87* 312–316
decoding substitution ciphers by word matching with application to OCR. *Nagy, George, + , T-PAMI Sep 87* 710–715
system for recognition of printed characters in Roman alphabet of any font and size. *Khan, Simon, + , T-PAMI Mar 87* 274–288
Character recognition; cf. Chinese/Japanese characters
Character recognition, handwriting
Arabic cursive handwriting recognition. *Almuallim, Hussein, + , T-PAMI Sep 87* 715–722
Chinese/Japanese characters
modified quadratic discriminant functions and application to Chinese character recognition. *Kimura, Fumitaka, + , T-PAMI Jan 87* 149–153
Coding/decoding
decoding substitution ciphers by word matching with application to OCR. *Nagy, George, + , T-PAMI Sep 87* 710–715
Cognitive science
extension of conditional probability and measures of belief and disbelief in hypothesis based on uncertain evidence. *Ihara, Jiro, T-PAMI Jul 87* 561–568
Computation theory
fundamental theory of optimal feature selection; implementation and computational complexity. *Morgera, Salvatore D., T-PAMI Jan 87* 29–38
Computation time
convex Hull inclusion test. *Bailey, Thomas, + , T-PAMI Mar 87* 312–316
Computer vision; cf. Machine vision
Computers; cf. Parallel processing; Pipeline processing
Convolution
fast convolution with Laplacian-of-Gaussian masks. *Chen, J. S., + , T-PAMI Jul 87* 584–590
parallel 2-D convolution on mesh-connected array processor. *Lee, S.-Y., + , T-PAMI Jul 87* 590–594

D

Data structures
frequency-domain analysis and synthesis of image-pyramid-generating kernels. *Meer, Peter, + , T-PAMI Jul 87* 512–522
iconic indexing by 2-D strings. *Chang, Shi-Kuo, + , T-PAMI May 87* 413–428
Database systems; cf. Image databases
Decision-making
extension of conditional probability and measures of belief and disbelief in hypothesis based on uncertain evidence. *Ihara, Jiro, T-PAMI Jul 87* 561–568
Digital filters; cf. Median filters; Multidimensional digital filters
Distance measurement; cf. Sonar distance measurement
Distributed-parameter systems
dynamic imagery modeling and motion estimation using weak formulations. *Schalkoff, R. J., T-PAMI Jul 87* 578–584
Dynamic programming
semantic network array processor and applications to image understanding. *Dixit, V., + , T-PAMI Jan 87* 153–160

E

Estimation
bootstrap techniques for estimating error rate of nearest-neighbor and quadratic classifiers. *Jain, Anil K., + , T-PAMI Sep 87* 628–633
characteristics of natural scenes related to fractal dimension. *Keller, James M., + , T-PAMI Sep 87* 621–627
classification of partial 2-D shapes using Fourier descriptors. *Lin, C. C., + , T-PAMI Sep 87* 686–690

dynamic imagery modeling and motion estimation using weak formulations. *Schalkoff, R. J., T-PAMI Jul 87* 578–584
effect of median filtering on edge estimation and detection. *Bovik, Alan Conrad, + , T-PAMI Mar 87* 181–194
image estimation using doubly stochastic Gaussian random field models. *Woods, John W., + , T-PAMI Mar 87* 245–253
optical flow estimation; error analysis of gradient-based methods with local optimization. *Kearney, Joseph K., + , T-PAMI Mar 87* 229–244
Estimation; cf. Maximum-likelihood estimation; Parameter estimation; Prediction methods

F

Feature extraction
fundamental theory of optimal feature selection; implementation and computational complexity. *Morgera, Salvatore D., T-PAMI Jan 87* 29–38
projection-based geometrical feature extraction for computer vision; algorithms in pipeline architectures. *Sanz, Jorge L. C., + , T-PAMI Jan 87* 160–168
spiral sampling of binary zooplankton images for classification. *Katsinis, C., + , T-PAMI Nov 87* 832–835
Feature extraction; cf. Image edge analysis
Feedback systems
forward/backward contour tracing with feedback. *Chen, Bor-Dong, + , T-PAMI May 87* 438–446
Filtering
histogram analysis of normal mixture distribution using scale-space approach. *Carlotto, Mark J., T-PAMI Jan 87* 121–129
Filtering; cf. Estimation
Finite-duration impulse-response digital filters; cf. FIR digital filters
FIR digital filters
detail-preserving median-type filters with linear FIR substructures for image restoration. *Nieminen, Ari, + , T-PAMI Jan 87* 74–90
Fourier transforms
registration of translated and rotated images using finite Fourier transforms. *De Castro, E., + , T-PAMI Sep 87* 700–703
Fuzzy set theory
fuzzy c-means/ISODATA algorithms; convergence and consistency. *Sabin, Michael J., T-PAMI Sep 87* 661–668

G

Game theory
modeling and isomorphisms of positional board games. *Antoy, Sergio, T-PAMI Sep 87* 669–675
Gaussian processes
estimating components of univariate Gaussian mixtures using Prony's method. *Derin, Haluk, T-PAMI Jan 87* 142–148
image estimation using doubly stochastic Gaussian random field models. *Woods, John W., + , T-PAMI Mar 87* 245–253
Geometry
digital parallelism, perpendicularity, and rectangles defined and characterized. *Krishnaswamy, Ravinder, + , T-PAMI Mar 87* 316–321
Gradient methods
optical flow estimation; error analysis of gradient-based methods with local optimization. *Kearney, Joseph K., + , T-PAMI Mar 87* 229–244
Grammar; cf. Languages
Graph theory
structuring free space as hypergraph for roving-robot path planning and navigation. *Rueb, Kurt D., + , T-PAMI Mar 87* 263–273
Graph theory; cf. Trees

H

Handwriting recognition; cf. Character recognition, handwriting
Hough transforms
adaptive Hough transforms for detection of 2-D shapes. *Illingworth, J., + , T-PAMI Sep 87* 690–698

I

IEEE
establishment of King-Sun Fu Award. *T-PAMI Sep 87* 723
Image analysis
characteristics of natural scenes related to fractal dimension. *Keller, James M., + , T-PAMI Sep 87* 621–627.
color-encoded structured light for rapid active ranging. *Boyer, K. L., + , T-PAMI Jan 87* 14–28
focal gradients as source of image depth information. *Pentland, Alex Paul, T-PAMI Jul 87* 523–531
mathematical morphology as basis of image analysis. *Haralick, Robert M., + , T-PAMI Jul 87* 532–550
Image analysis; cf. Machine vision
Image classification
first-order Markov model for extracting spatial and spectral information; object classifiers with improved performance. *Kalayeh, H. M., + , T-PAMI May 87* 457–461
image edge extraction using statistical classifier approach. *Kundu, Amlan, + , T-PAMI Jul 87* 569–577
spiral sampling of binary zooplankton images for classification. *Katsinis, C., + , T-PAMI Nov 87* 832–835
Image classification; cf. Image shape analysis; Pattern recognition
Image coding
matching perspective views of a polyhedron using circuits. *Gu, W. K., + , T-PAMI May 87* 390–400
subpixel reconstruction of chain-coded line drawings using robust filtering algorithm. *Koplowitz, J., + , T-PAMI May 87* 451–457
Image color analysis
color-encoded structured light for rapid active ranging. *Boyer, K. L., + , T-PAMI Jan 87* 14–28
synthesis and analysis of color images. *Wandell, Brian A., T-PAMI Jan 87* 2–13
Image databases
iconic indexing by 2-D strings. *Chang, Shi-Kuo, + , T-PAMI May 87* 413–428
Image edge analysis
edge focusing, continuous coarse-to-fine tracking method for edge detection. *Bergholm, Fredrik, T-PAMI Nov 87* 726–741
effect of median filtering on edge estimation and detection. *Bovik, Alan Conrad, + , T-PAMI Mar 87* 181–194
forward/backward contour tracing with feedback. *Chen, Bor-Dong, + , T-PAMI May 87* 438–446
image edge extraction using statistical classifier approach. *Kundu, Amlan, + , T-PAMI Jul 87* 569–577
local structure of image discontinuities in one dimension. *Leclerc, Yvan G., + , T-PAMI May 87* 341–355
resolution improvement of edge detector using image interpolation. *Nalwa, Vishvjit S., T-PAMI May 87* 446–451
Image edge analysis; cf. Image shape analysis
Image generation
multispectral texture synthesis using fractal concepts. *Dodd, Nigel, T-PAMI Sep 87* 703–707
synthesis and analysis of color images. *Wandell, Brian A., T-PAMI Jan 87* 2–13
Image matching
matching perspective views of a polyhedron using circuits. *Gu, W. K., + , T-PAMI May 87* 390–400
matching 3-D objects with single perspective views. *Horaud, Radu, T-PAMI May 87* 401–412
multiple-resolution representation and probabilistic matching of 2-D gray-scale shape. *Crowley, James L., + , T-PAMI Jan 87* 113–121
parallel algorithms for image template matching on hypercube SIMD computers. *Fang, Zhixi, + , T-PAMI Nov 87* 835–841
Image motion analysis
dynamic imagery modeling and motion estimation using weak formulations. *Schalkoff, R. J., T-PAMI Jul 87* 578–584
finding trajectories of feature points in monocular image sequence. *Sethi, Ishwar K., + , T-PAMI Jan 87* 56–73
least-squares fitting of two 3-D point sets. *Arun, K. S., + , T-PAMI Sep 87* 698–700
motion stereo method based on coarse-to-fine control strategy. *Xu, Gang, + , T-PAMI Mar 87* 332–336
motion stereo using ego-motion complex logarithmic mapping. *Jain, Ramesh, + , T-PAMI May 87* 356–369
optical flow estimation; error analysis of gradient-based methods with local optimization. *Kearney, Joseph K., + , T-PAMI Mar 87* 229–244
recovering motion relative to planar surface from image brightness derivatives. *Negahdaripour, Shahriar, + , T-PAMI Jan 87* 168–176
scene segmentation from visual motion using global optimization. *Murray, David W., + , T-PAMI Mar 87* 220–228
3-D motion estimation, understanding, and prediction from noisy image sequences. *Weng, Juyang, + , T-PAMI May 87* 370–389
Image object recognition; cf. Object recognition
Image orientation analysis
computation of surface orientation and structure of objects using grid coding. *Wang, Y. F., + , T-PAMI Jan 87* 129–136
Image pattern recognition; cf. Pattern recognition
Image processing
computing skeletons of amorphous, bloblike, noisy images; application to study of leukocyte locomotion. *Dill, Andreas R., + , T-PAMI Jul 87* 495–504
fast convolution with Laplacian-of-Gaussian masks. *Chen, J. S., + , T-PAMI Jul 87* 584–590
frequency-domain analysis and synthesis of image-pyramid-generating kernels. *Meer, Peter, + , T-PAMI Jul 87* 512–522
image estimation using doubly stochastic Gaussian random field models. *Woods, John W., + , T-PAMI Mar 87* 245–253

Image processing; cf. Median filters
Image reconstruction
robust filtering algorithm for subpixel reconstruction of chain-coded line drawings. *Koplowitz, J., + , T-PAMI May 87* 451–457
Image registration
registration of translated and rotated images using finite Fourier transforms. *De Castro, E., + , T-PAMI Sep 87* 700–703
Image restoration
detail-preserving median-type filters with linear FIR substructures for image restoration. *Nieminen, Ari, + , T-PAMI Jan 87* 74–90
Image segmentation
entry – exit method of shadow boundary segmentation. *Hambrick, Larry N., + , T-PAMI Sep 87* 597–607
iterative thresholding algorithm for image segmentation. *Pérez, Arnulfo, + , T-PAMI Nov 87* 742–751
noisy and textured image modeling and segmentation using Gibbs random fields. *Derin, Haluk, + , T-PAMI Jan 87* 39–55
range image segmentation and classification. *Hoffman, Richard, + , T-PAMI Sep 87* 608–620
scene segmentation from visual motion using global optimization. *Murray, David W., + , T-PAMI Mar 87* 220–228
segmenting noncauusal Markovian random fields; simple parallel hierarchical and relaxation algorithms. *Cohen, Fernand S., + , T-PAMI Mar 87* 195–219
Image shape analysis
adaptive Hough transforms for detection of 2-D shapes. *Illingworth, J., + , T-PAMI Sep 87* 690–698
classification of partial 2-D shapes using Fourier descriptors. *Lin, C. C., + , T-PAMI Sep 87* 686–690
computation of surface orientation and structure of objects using grid coding. *Wang, Y. F., + , T-PAMI Jan 87* 129–136
hierarchical shape description via multiresolution symmetric axis transform. *Pizer, Stephen M., + , T-PAMI Jul 87* 505–511
Image texture analysis
multispectral texture synthesis using fractal concepts. *Dodd, Nigel, T-PAMI Sep 87* 703–707
Inspection, visual
rule-based system for verifying engineering specifications in industrial visual inspection applications. *Petkovic, Dragutin, + , T-PAMI Mar 87* 306–311
Interpolation
resolution improvement of edge detector using image interpolation. *Nalwa, Vishvjit S., T-PAMI May 87* 446–451

L

Languages
inference of regular grammars from positive samples of their languages. *Garcia, Pedro, + , T-PAMI Nov 87* 841–845
Learning systems
learning and plan refinement in knowledge-based system for automatic speech recognition. *de Mori, Renato, + , T-PAMI Mar 87* 289–305
Least-squares approximation
characteristics of natural scenes related to fractal dimension. *Keller, James M., + , T-PAMI Sep 87* 621–627
classification of partial 2-D shapes using Fourier descriptors. *Lin, C. C., + , T-PAMI Sep 87* 686–690
least-squares fitting of two 3-D point sets. *Arun, K. S., + , T-PAMI Sep 87* 698–700
Level-crossing problems
histogram analysis of normal mixture distribution using scale-space approach. *Carlotto, Mark J., T-PAMI Jan 87* 121–129
Locomotion systems; cf. Robots, locomotion

M

Machine vision
error analysis in stereo determination of 3-D point positions. *Blostein, Steven D., + , T-PAMI Nov 87* 752–765
least-squares fitting of two 3-D point sets. *Arun, K. S., + , T-PAMI Sep 87* 698–700
semantic network array processor and applications to image understanding. *Dixit, V., + , T-PAMI Jan 87* 153–160
Machine vision; cf. Image motion analysis; Object recognition
Markov processes
classification of sleep patterns by Markov modeling and correspondence analysis. *Jansen, Ben H., + , T-PAMI Sep 87* 707–710
first-order Markov model for extracting spatial and spectral information; object classifiers with improved performance. *Kalayeh, H. M., + , T-PAMI May 87* 457–461
segmenting noncauusal Markovian random fields; simple parallel hierarchical and relaxation algorithms. *Cohen, Fernand S., + , T-PAMI Mar 87* 195–219
Mathematical programming; cf. Dynamic programming
Matrix decomposition/factorization
gradient-type algorithms for partial singular-value decomposition. *Haimi-Cohen, Raziel, + , T-PAMI Jan 87* 137–142
Maximum-likelihood estimation
histogram analysis of normal mixture distribution using scale-space approach. *Carlotto, Mark J., T-PAMI Jan 87* 121–129
Median filters
detail-preserving median-type filters with linear FIR substructures for image restoration. *Nieminen, Ari, + , T-PAMI Jan 87* 74–90
effect of median filtering on edge estimation and detection. *Bovik, Alan Conrad, + , T-PAMI Mar 87* 181–194
Motion analysis; cf. Image motion analysis
Multidimensional digital filters
detail-preserving median-type filters with linear FIR substructures for image restoration. *Nieminen, Ari, + , T-PAMI Jan 87* 74–90
image estimation using doubly stochastic Gaussian random field models. *Woods, John W., + , T-PAMI Mar 87* 245–253
recursive algorithms based on B-spline functions for implementing digital image filters. *Ferrari, L. A., + , T-PAMI May 87* 461–466
robust filtering algorithm for subpixel reconstruction of chain-coded line drawings. *Koplowitz, J., + , T-PAMI May 87* 451–457
Multiprocessing; cf. Parallel processing

N

Navigation
structuring free space as hypergraph for roving-robot path planning and navigation. *Rueb, Kurt D., + , T-PAMI Mar 87* 263–273
Navigation; cf. Robots, locomotion
Nonlinear filtering; cf. Median filters
Nonstationary stochastic processes; cf. Bayes procedures

O

Object recognition
feature-based tactile object recognition. *Browse, Roger A., T-PAMI Nov 87* 779–786
image analysis using mathematical morphology. *Haralick, Robert M., + , T-PAMI Jul 87* 532–550
localizing overlapping parts by searching interpretation tree. *Grimson, W. Eric L., + , T-PAMI Jul 87* 469–482
matching 3-D objects with single perspective views. *Horaud, Radu, T-PAMI May 87* 401–412
polyhedra recognition by hypothesis accumulation using parallel algorithms. *Dhome, M., + , T-PAMI May 87* 429–438
range image segmentation and classification. *Hoffman, Richard, + , T-PAMI Sep 87* 608–620
using polygons to recognize and locate partially occluded objects. *Koch, Mark W., + , T-PAMI Jul 87* 483–494
Optical character recognition
decoding substitution ciphers by word matching with application to OCR. *Nagy, George, + , T-PAMI Sep 87* 710–715
Optimization methods; cf. Dynamic programming; Gradient methods

P

Parallel processing
algorithms for image template matching on hypercube SIMD computers. *Fang, Zhixi, + , T-PAMI Nov 87* 835–841
discrete relaxation algorithm for parallel processing. *Gu, Jun, + , T-PAMI Nov 87* 816–831
polyhedra recognition by hypothesis accumulation using parallel algorithms. *Dhome, M., + , T-PAMI May 87* 429–438
Parameter estimation
estimating components of univariate Gaussian mixtures using Prony's method. *Derin, Haluk, T-PAMI Jan 87* 142–148
histogram analysis of normal mixture distribution using scale-space approach. *Carlotto, Mark J., T-PAMI Jan 87* 121–129
noisy and textured image modeling and segmentation using Gibbs random fields. *Derin, Haluk, + , T-PAMI Jan 87* 39–55
Pattern classification
Bayes error estimation using Parzen and k-NN procedures. *Fukunaga, Keinosuke, + , T-PAMI Sep 87* 634–643
bias of finite-sample nearest-neighbor estimates. *Fukunaga, Keinosuke, + , T-PAMI Jan 87* 103–112
bootstrap techniques for estimating error rate of nearest-neighbor and quadratic classifiers. *Jain, Anil K., + , T-PAMI Sep 87* 628–633
decision-directed multivariate empirical Bayes classification with nonstationary priors. *Stirling, Wynn C., + , T-PAMI Sep 87* 644–660
extensions to Fisher's linear discriminant function. *Longstaff, Ian D., T-PAMI Mar 87* 321–325
fundamental theory of optimal feature selection; implementation and computational complexity. *Morgera, Salvatore D., T-PAMI Jan 87* 29–38
large tree classifier with heuristic search and global training. *Wang, Qing Ren, + , T-PAMI Jan 87* 91–102
multiple-resolution representation and probabilistic matching of 2-D gray-scale shape. *Crowley, James L., + , T-PAMI Jan 87* 113–121

nearest-neighbor and Bayes pattern classification methods; error rates. *Loizou, George, + , T-PAMI Mar 87* 254–262
sleep-pattern classification by Markov modeling and correspondence analysis. *Jansen, Ben H., + , T-PAMI Sep 87* 707–710
Pattern classification; cf. Image classification
Pattern clustering methods
convex Hull inclusion test. *Bailey, Thomas, + , T-PAMI Mar 87* 312–316
fuzzy *c*-means/ISODATA algorithms; convergence and consistency. *Sabin, Michael J., T-PAMI Sep 87* 661–668
range image segmentation and classification. *Hoffman, Richard, + , T-PAMI Sep 87* 608–620
sparse decompositions for exploratory pattern analysis. *Hoffman, Richard L., + , T-PAMI Jul 87* 551–560
Pattern matching
decoding substitution ciphers by word matching with application to OCR. *Nagy, George, + , T-PAMI Sep 87* 710–715
Pattern recognition
recognition of noisy subsequences using constrained edit distances. *Oommen, B. John, T-PAMI Sep 87* 676–685
sparse decompositions for exploratory pattern analysis. *Hoffman, Richard L., + , T-PAMI Jul 87* 551–560
synthesizing statistical knowledge from incomplete mixed-mode data. *Wong, Andrew K. C., + , T-PAMI Nov 87* 796–805
Pattern recognition; cf. Feature extraction; Image classification; Object recognition; Pattern classification; Speech recognition
Pipeline processing
projection-based geometrical feature extraction for computer vision; algorithms in pipeline architectures. *Sanz, Jorge L. C., + , T-PAMI Jan 87* 160–168
Planning
learning and plan refinement in knowledge-based system for automatic speech recognition. *de Mori, Renato, + , T-PAMI Mar 87* 289–305
Planning; cf. Robots, motion planning
Position measurement
error analysis in stereo determination of 3-D point positions. *Blostein, Steven D., + , T-PAMI Nov 87* 752–765
Prediction methods
3-D motion estimation, understanding, and prediction from noisy image sequences. *Weng, Juyang, + , T-PAMI May 87* 370–389

Q

Quality control
rule-based system for verifying engineering specifications in industrial visual inspection applications. *Petkovic, Dragutin, + , T-PAMI Mar 87* 306–311

R

Relaxation methods
parallel architecture for discrete relaxation algorithm. *Gu, Jun, + , T-PAMI Nov 87* 816–831
scene segmentation from visual motion using global optimization. *Murray, David W., + , T-PAMI Mar 87* 220–228
segmenting noncauusal Markovian random fields; simple parallel hierarchical and relaxation algorithms. *Cohen, Fernand S., + , T-PAMI Mar 87* 195–219
semantic network array processor and applications to image understanding. *Dixit, V., + , T-PAMI Jan 87* 153–160
Robots, locomotion
mobile robot localization using sonar. *Drumheller, Michael, T-PAMI Mar 87* 325–332
physically based simulation model for acoustic sensor robot navigation. *Kuc, Roman, + , T-PAMI Nov 87* 766–778
Robots, motion planning
structuring free space as hypergraph for roving-robot path planning and navigation. *Rueb, Kurt D., + , T-PAMI Mar 87* 263–273
Robots, vision systems; cf. Object recognition
Robustness
subpixel reconstruction of chain-coded line drawings using robust filtering algorithm. *Koplowitz, J., + , T-PAMI May 87* 451–457

S

Scene analysis; cf. Image analysis
Search methods
gradient-type algorithms for partial singular-value decomposition. *Haimi-Cohen, Raziel, + , T-PAMI Jan 87* 137–142
large tree classifier with heuristic search and global training. *Wang, Qing Ren, + , T-PAMI Jan 87* 91–102
localizing overlapping parts by searching interpretation tree. *Grimson, W. Eric L., + , T-PAMI Jul 87* 469–482
Sequences
finite prolate spheroidal sequences; generation and properties. *Wilson, Roland, T-PAMI Nov 87* 787–795
Signal processing; cf. Convolution; Estimation; Filtering; Speech processing
Sleep
classification of sleep patterns by Markov modeling and correspondence analysis. *Jansen, Ben H., + , T-PAMI Sep 87* 707–710
Sonar distance measurement
mobile robot localization using sonar. *Drumheller, Michael, T-PAMI Mar 87* 325–332
Sonar navigation
physically based simulation model for acoustic sensor robot navigation. *Kuc, Roman, + , T-PAMI Nov 87* 766–778
Speech processing
high-speed string correction method using hierarchical file. *Tanaka, Eiichi, + , T-PAMI Nov 87* 806–815
Speech recognition
learning and plan refinement in knowledge-based system for automatic speech recognition. *de Mori, Renato, + , T-PAMI Mar 87* 289–305
Splines
recursive algorithms based on B-spline functions for implementing digital image filters. *Ferrari, L. A., + , T-PAMI May 87* 461–466
Stochastic fields
noisy and textured image modeling and segmentation using Gibbs random fields. *Derin, Haluk, + , T-PAMI Jan 87* 39–55
Stochastic processes; cf. Gaussian processes; Markov processes

T

Text processing
recognition of noisy subsequences using constrained edit distances. *Oommen, B. John, T-PAMI Sep 87* 676–685
Transforms; cf. Fourier transforms; Hough transforms
Trees
large tree classifier with heuristic search and global training. *Wang, Qing Ren, + , T-PAMI Jan 87* 91–102

U

Uncertain systems
extension of conditional probability and measures of belief and disbelief in hypothesis based on uncertain evidence. *Ihara, Jiro, T-PAMI Jul 87* 561–568

V

Visual system
focal gradients as source of image depth information. *Pentland, Alex Paul, T-PAMI Jul 87* 523–531

Z

Zero-crossing problems; cf. Level-crossing problems