

Anil K. Jain

CONTACT INFORMATION

3115 Engineering Building
Department of Computer Science & Engineering
Michigan State University
East Lansing, Michigan 48824-1226

Voice: (517) 355-9282
Fax: (517) 432-1061
E-mail: jain@cse.msu.edu
WWW: www.cse.msu.edu/~jain

EDUCATION

Ohio State University

Ph.D. Electrical Engineering 1973
M.S. Electrical Engineering 1970

Indian Institute of Technology, Kanpur

B. Tech. Electrical Engineering 1969 (with Distinction)

EMPLOYMENT

1992 -
University Distinguished Professor, Michigan State University
1995 - 1999
Chair, Department of Computer Science & Engineering, Michigan State University
1982 -
Professor, Department of Computer Science, Michigan State University
1977 - 1982
Associate Professor, Department of Computer Science, Michigan State University
1980 - 1981
Program Director, Intelligent Systems Program, National Science Foundation
1974 - 1977
Assistant Professor, Department of Computer Science, Michigan State University
1972 - 1974
Assistant Professor, Department of Computer Science, Wayne State University
1969 - 1972
Graduate Research Assistant, Department of Electrical Engineering, Ohio State University

Visiting Appointments

Korea University; Tsinghua University; Hong Kong Polytechnic University; ETH, Zurich; University of Bonn; Technical University of Lisbon; University of Oslo; IBM T.J. Watson Research Center; Hong Kong University of Science and Technology; Osaka University; Norwegian Computing Center; Tata Research Development and Design Center, India; Delft Technical University.

AWARDS AND RECOGNITION

- Member, IDIAP Scientific Advisory Committee 2013-
- Member, National Academies Panel on Information Technology, 2010-2012
- Member, Research Grants Council (Engineering), Hong Kong, 2008-
- Member, Defense Science Board, 2008-2010
- IEEE ICDM Research Contributions Award, 2008
- King-Sun Fu Prize, International Association of Pattern Recognition, 2008
- IEEE W. Wallace McDowell Award, 2007
- Member, Biometrics Defense Support Team, 2007-2008
- Member, National Academies Panel on "Improvised Explosive Devices", 2005-2007
- Member, National Academies Panel on "Whither Biometrics", 2004-2009
- Fellow, SPIE, 2005

- Fellow, AAAS, 2005
- Withrow Distinguished Scholar Award, Michigan State University, 2006
- IEEE Computer Society Technical Achievement Award, 2003
- PSP Award from the Association of American Publishers for the book *Handbook of Fingerprint Recognition*, 2003
- Fellow, ACM, 2003
- Alexander von Humboldt Research Award, 2002
- Pierre Devijver Award, International Association of Pattern Recognition, 2002
- John Simon Guggenheim Fellow, 2001
- Fulbright Research Scholar, 1998
- ACM National Lecturer, 1997-98
- Ohio State University, College of Engineering Distinguished Alumnus Award, 1997
- Member, IEEE Computer Society Golden Core, 1997
- Meritorious Service Award, IEEE Computer Society, 1996
- Fellow, IAPR (International Association of Pattern Recognition), 1996
- Distinguished Visitor, IEEE Computer Society Asia-Pacific Lecture Program, 1994-96
- Member, IEEE Publications Board, 1989-90
- Fellow, IEEE, 1991
- Michigan State University Distinguished Faculty Award, 1989
- Member, Advisory Panel, IRIS Division, NSF, 1988-1991
- Chair, IAPR Technical Committee on Statistical Pattern Recognition, 1988-1990
- Distinguished Visitor, IEEE Computer Society, 1988-1990
- Member, IEEE SMC Society Executive Committee, 1985-1987
- Member, IEEE TAB Periodicals Committee, 1988-1990
- Merit Scholar, Indian Institute of Technology, 1967
- National Merit Scholar, Government of India, 1963

PAPER AWARDS

- Int'l Conf. on Biometrics: Theory, Applications and Systems (BTAS), Best Poster award (with S. Arora, M. Vatsa and R. Singh), Washington DC, September 2012
- Int'l Conf. on Biometrics (ICB), Best Paper Award (with S. Yoon and Q. Zhao), New Delhi India, March 2012
- Int'l Joint Conf. on Biometrics (IJCB), Best Paper Award (with S. Yoon and J. Feng), Washington DC, June 2011
- Int'l Conf. on Biometrics: Theory, Applications and Systems (BTAS), Best Paper Award (with B. Klare) Washington DC, September 2010
- Int'l Conf. Graphics, Patterns and Images (SIBGRAPI), Best Paper Award (with A. Paulino and J. Feng) Gramado, Brazil, August 2010
- Int'l Conf. Pattern Recognition (ICPR), Best Paper Award (with K. Nguyen, and R. Allen) Istanbul Turkey, August 2010
- Int'l Conf. Pattern Recognition (ICPR), Best Paper Award (with Y. Lee, U. Park) Istanbul Turkey, August 2010
- Int'l Conf. on Biometrics: Theory, Applications and Systems (BTAS), Best Paper Award (with K. Nandakumar and A. Ross) Washington DC, September 2009

- Int'l Conf. on Biometrics (ICB), Best Paper Award (with Y. Chen), Alghero, June 2009
- Int'l Conf. Pattern Recognition (ICPR), Best Paper Award (with A. Nagar and K. Nandakumar) Tampa, December 2008
- Biometrics Research Symposium (BYSM), Best Paper Award (with J-E. Lee and R. Jin), Tampa, September 2008
- Pacific-Rim Conference on Multimedia (PCM), Best Paper Award in Multimedia Systems and Applications (with J. Lee and R. Jin), Hong Kong, December 2007
- Biometrics Research Symposium (BYSM), Best Paper Award (with Y. Chen), Baltimore, September 2007
- Int'l Assoc. for Pattern Recognition (IAPR), Best Paper Award in Pattern Recognition & Basic Technologies (with A. Fred), Hong Kong, August 2006
- Int'l Conf. on Biometrics (ICB), Motorola Best Student Paper Award (with J. Fierrez-Aguilar, Y. Chen and J. Ortega-Garcia), Hong Kong, January 2006
- Pattern Recognition Journal, Best Paper Award (with K. Nandakumar and A. Ross), 2005
- Audio-Video Based Biometric Person Authentication (AVBPA) Conf., Identix Best Student Paper Award (with U. Uludag), Rye Brook, NY, July 2005
- SIAM Int'l Data Mining Conf. (SDM), Best Student Paper Award (with H. Law and N. Zhang), Orlando, 2004
- IEEE ICIP, Best Student Paper Award (with A. Vailaya and H.J. Zhang), Kobe, 1999
- IEEE Transactions on Neural Networks, Outstanding Paper Award (with J. Mao), June 1996
- ICDAR, Best Poster Paper Award (with O. Trier), Montreal, 1995
- Pattern Recognition Journal, Best Paper Award (with F. Farrokhnia), 1991
- Pattern Recognition Journal, Best Paper Award (with J.V. Moreau), 1987
- Certificates for Outstanding Contributions to Pattern Recognition Journal, 1976, 1979, 1992, 1997, 1998

MAJOR
CONFERENCE AND
WORKSHOP
ORGANIZATION

- General Chair, International Conf. on Biometrics, New Delhi, March 2012
- Plenary Chair, International Conf. Pattern Recognition, Istanbul, August 2010
- General Chair (with T. Tan and S. W. Lee), International Conf. on Biometrics, Seoul, August 2007
- General Chair (with A. Fred), 7th Int'l Workshop on Pattern Recognition in Information Systems, Funchal, June 2007
- General Chair (with B. Gunsel), Int'l Workshop on Multimedia Content Representation, Classification and Security, Istanbul, Sept 2006
- General Chair (with R. Chin), International Conference on Biometrics, Hong Kong, January 2006
- Program Chair (with N. Ratha), Audio Video Based Person Authentication (AVBPA), New York, July 2005
- Program Chair (with N. Ratha), SPIE Conf. on Biometric Technology for Human Identification, Orlando, April 2005
- General Chair (with R. Chin), International Conference on Biometrics, Hong Kong, July 2004
- Area Chair, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Washington D.C., June 2004
- Program chair (with N. Ratha), SPIE Conf. On Biometric Technology for Human Identification, Orlando, April 2004

- Program Chair (with H. Bunke), 17th International Conference on Pattern Recognition, Cambridge, 2004
- Chair (with E. Rood), NSF Workshop on “Research Agenda in Biometrics”, Morgantown, April 2003
- Chair (with M. Figueiredo and J. Zerubia), Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR 2001), Sophia-Antipolis, France
- Program Chair (with J. Kittler), 15th International Conference on Pattern Recognition, Barcelona, 2000
- General Chair (with D. Goldgof), IEEE Computer Vision and Pattern Recognition Conf. (CVPR ’98), Santa Barbara
- General Program Chair (with S. Venkatesh and B. Lovell), 14th International Conference on Pattern Recognition, Brisbane, 1998
- Tutorial Chair, IEEE Computer Vision and Pattern Recognition Conf. (CVPR ’96), San Diego
- General Chair, IEEE Southwest Symposium on Image Analysis and Interpretation, Dallas, April 1994
- General Chair (with E. Backer), 11th International Conference on Pattern Recognition, The Hague, Aug. 1992
- Chair (with S. Negahdaripour), NSF Workshop on “Challenges of Computer Vision”, Maui, June 1991
- General Chair, IEEE Workshop on Interpretation of 3D Scenes, Austin, Nov. 1989
- Chair (with R. Chellappa), NSF Workshop on “Theory and Applications of MRF”, San Diego, June 1989
- Chair, NSF Indo-US Workshop on Computer Research Collaboration, Hyderabad, 1988
- Chair (with R. Jain), NSF Workshop on “Range Image Understanding”, East Lansing, March 1988
- Director, NATO Advanced Research Workshop on “Real-Time Object Tracking and Classification”, Maratea, 1987

EDITORIAL BOARDS

- Associate Editor, ACM Transactions on Knowledge Discovery in Data, 2006-2010
- Associate Editor, IEEE Transactions on Information Forensics and Security, 2005-2010
- Guest Editor (with D. Zhang), Special issue of Pattern Recognition Journal on “Biometrics”, Jan. 2003
- Guest Editor (with A. Fred), Special issue of Pattern Recognition Journal on “Pattern Recognition in Information Systems”, Dec. 2002
- Guest Editor (with R. Bolle and S. Pankanti), IEEE Computer, Special Issue on “Biometrics”, Feb. 2000
- Guest Editor (with J. Mao), Special Issue of the IEEE Transactions on Neural Networks on “Artificial Neural Networks and Statistical Pattern Recognition”, Jan. 1997
- Guest Editor (with C.M. Lee), Special Issues of Pattern Recognition on “Image Database Retrieval”, April 1997
- Editor in Chief, IEEE Transactions on Pattern Analysis and Machine Intelligence, 1991-1994
- Associate Editor, Pattern Recognition Journal, 1989
- Associate Editor, IEEE Transactions on Pattern Analysis and Machine Intelligence, 1986-1990
- Advisory Editor, Pattern Recognition Letters, 1984
- Associate Editor, IEEE Transactions on Neural Networks, 1994-1999

- Associate Editor, Applied Intelligence, 1990
- Associate Editor, Journal of Mathematical Imaging and Vision, 1990-1999

KEYNOTE SPEAKER

- International Conference of the Biometrics Special Interest Group (BIOSIG), Darmstadt, September 2013
- International Conference on Biometrics (ICB), Madrid, June 4-8, 2013
- 10th Biometric Summer School, Alghero, June 11-15, 2013
- International Workshop on Biometrics and Forensics (IWBF 2013), Lisbon, April 4-5, 2013
- Asia Pacific Signal and Information Processing Association (APSIPA) Annual Summit and Conference, Hollywood, CA, Dec 2012
- IEEE International Conference on Systems, Man, and Cybernetics, Seoul, October, 2012
- Asian Conference on Biometrics, Beijing, December 2011
- IEEE Conf. on Industrial Electronics & Applications (ICIEA), Beijing, June 2011
- EU TURBINE Final Workshop, Brussels, January 2011
- SIAM SDM 2010 Workshop on Clustering: Theory & Applications, Columbus, Ohio, May 2010
- Biometric ID Management and Multimodal Communication (BioID_MultiComm), Madrid, September 2009
- European Conf. Machine Learning (ECML), Antwerp, September 2008
- Int'l Symposium on Data, Information & Knowledge Spectrum, Amritapuri, India, December 2007
- 12th Ibero-American Congress on Pattern Recognition (CIARP), Valparaiso, Chile, November 2007
- 4th Int'l Conf. on Image and Graphics (ICIG), Chengdu, China, Aug. 2007
- 5th Int'l Conf. on Machine Learning and Data Mining (MLDM), Leipzig, July 2007
- 2nd Workshop on Computer Vision, Sao Carlos, Brazil, October 2006
- 19th Brazilian Sym. on Computer Graphics, Image Processing and Computer Vision (SIB-GRAPI), Manaus, October 2006
- 18th International Conf. Pattern Recognition (ICPR), Hong Kong, August 2006
- International Conf. on Enterprise Information Systems, Paphos, Cyprus, May 2006
- Symposium on Cryptography and Information Security (SCIS), Hiroshima, Japan, January 2006
- 1st Int'l Conf. Pattern Recognition & Machine Intelligence, Kolkata, India, December 2005
- 13th Int'l Conf. Image Analysis and Processing (ICIAP), Cagliari, Italy, September 2005
- 14th Scandinavian Conf. Image Analysis (SCIA) 2005, Joensuu, Finland, June 2005
- Korea Computer Vision and Pattern Recognition Society Meeting, Seoul, December 2004
- NATO Workshop on Information Security, Ottawa, Oct. 2004
- MIT Technology Review, Emerging Technology Conf., Sept. 2004
- 17th Int'l Conf. Pattern Recognition (ICPR), Cambridge, England, Aug. 2004
- IEEE Signal Processing and Applications Conference (SIU), Kusadasi, Turkey, April 2004
- European Union COTS Workshop on Biometrics, Vigo, Spain, March 2004
- Sino Biometrics, Beijing, Dec. 2003
- Fifth International Conf. On Advances in Pattern Recognition, Calcutta, Dec. 2003

- Fifth International Conf. On Multimodal Interfaces (ICMI), Vancouver, Nov. 2003
- German Pattern Recognition Society Conference (DAGM03), Magdeburg, Germany, Sept. 2003
- Austrian Pattern Recognition Society Conference (OAGM), Vienna, June 2003
- Sino Biometrics, Xian, Aug. 2002
- 1st International Conference on Diagnostic Imaging and Analysis, Shanghai, Aug. 2002
- IAPR Workshop on Statistical & Structural Pattern Recognition, Windsor, Aug. 2002
- MITAC Annual Meeting, Vancouver, May 2002
- Dow Lecture, Saginaw Valley State University, Saginaw, Feb. 2002
- 3rd Audio- Video-Based Person Authentication Conf. (AVBPA), Halmstad, Sweden, June 2001
- Workshop on Texture, Oulu, Finland, June 1999
- International Symposium on Multispectral Image Analysis, Wuhan, Oct. 1998
- Computer Vision Graphics and Image Proc. Conf. (CVGIP), Taipei, Aug. 1998
- Irish Machine Vision and AI Conference, Derry, N. Ireland, Sept. 1997
- Energy Minimization Methods in Computer Vision & Pattern Recog. (EMMCVPR), Venice, May 1997
- 2nd Asian Conference on Computer Vision (ACCV), Singapore, Dec. 1995
- 8th Int'l Conference Image Analysis and Processing (ICIAP), San Remo, Sept. 1995
- IEEE World Congress on Computational Intelligence, Orlando, July 1994
- 8th Scandinavian Conference on Image Analysis (SCIA), Tromso, May 1993
- Digital Image Computing Techniques & Applications (DICTA), Melbourne, Dec. 1991
- American Association of Physicists in Medicine, San Francisco, July 1991

INVITED TALKS

IDIAP, Martigny, Sept 2013; Qualcomm, San Diego, May 2013; University Autonoma, Madrid, June 2013; Yonsei University, Seoul, June 2013; MorphoTrust, Boston, March 2013; IIIT, New Delhi, Feb 2013; Dayalbagh University, Agra, Feb 2013; 3M Cogent systems, Dec 2012; University of Texas, Austin, Dec 2012; University of Notre Dame, Nov 2012; 2012 Michigan Biometrics Conference, Grand Rapids, Oct 2012; Postech, Pohang, Oct 2012; Sogang University, Seoul, Sept 2012; Korea University, Seoul, Sept 2012; Life Technologies, Foster City, July 2012; City University of Hong Kong, June 2012; National Laboratory for Pattern Recognition, Beijing, June 2012; King Mankut University of Technology, Bangkok, March 2012; Sichuan University, Chengdu, June 2011; University of Miami, April 2011; Fujitsu Labs, Tokyo, Dec 2010; Suprema, Seoul, Dec 2010; Hong Kong University Science & Technology, Dec 2010; Korea University, Sept 2010; Beijing Behang University, June 2010; Institute for Infocomm Research, Singapore, June 2010; Universiti Sains Malaysia, Penang, June 2010; Multimedia University, Malacca, June 2010; University of Louisville, April 2010; Samsung R&D, Dallas, April 2010; University of Florida, Feb 2010; Chosun University, Dec 2009; Yonsei University, Nov 2009; University of Maryland, Oct 2009; Korea University, Oct 2009; Pusan National University, Oct 2009; Tsinghua University, June 2009; Inter American Development Bank, May 2009; University of North Texas, April 2009; University of Florida, Oct 2008; Chulalongkorn University, Nov 2008; TCS, Nov 2008; Istanbul Technical University, Sept. 2008; Cogent, Aug. 2008; KMUT, Bangkok, May 2008; Chiang Mai University, Chiang Mai, May 2008; Kentucky Science and Technology Foundation, April 2008; University of Minnesota, April 2008; University of Virginia, March 2008; University of Missouri, Columbia, January 2008; CMC Ltd., Hyderabad, December 2007; Ford Motor Company, Dearborn, November 2007; Information Trust Institute, University of Illinois, Urbana-Champaign, Oct. 2007; Istanbul Technical University, Sept. 2007; Tsinghua University, Beijing, Aug. 2007; Nanyang Technological University, Singapore, March 2007; Institute of

Infocomm Research, Singapore, March 2007; Wayne State University, Detroit, March 2007; General Motors Technical Center, Feb. 2007; Yonsei University, Seoul, Jan. 2007; Hong Kong Baptist University, Jan. 2007; Department of Electrical & Computer Engineering, Ohio State University, Nov. 2006; School of Computer Science, University of Central Florida, Nov. 2006; UNESP, Baurau, Brazil, Oct 2006; Federal University of Parana, Curitiba, Brazil, Oct 2006; Sichuan University, Chengdu, China, August 2006; Institute of Automation, Beijing, August 2006; Lumidigm, Albuquerque, July 2006; SAGEM, Paris, June 2006; Department of Informatics, ETH, Zurich, May 2006; University of Athens, May 2006; Aristotle University of Thessaloniki, May 2006; Kyoto University, Jan 2006; Indian Institute of Technology, Kanpur, Dec 2005; Indian Institute of Science, Bangalore, Dec 2005; Institut National Telecommunications (INT-Evry), Nov 2005; National Academy of Science Sackler Forensic Science Colloquium, Nov 2005; Dept. of Computer Science, SUNY, Buffalo, Oct 2005; Department of Electrical Engineering, Istanbul Technical University, Sept., 2005; NEC Research Labs, Princeton, July 2005; Institute of Automation, Chinese Academy of Sciences, Beijing, June 2005; Siemens Corporate Research, Princeton, Feb 2005; Symbol Technologies, Long Island, Feb 2005; Biometric Research Center, Yonsei University, Seoul, December 2004; Indian Institute of Technology, Mumbai, December 2004; CMC Research and Development Center, Hyderabad, December 2004; ATR International, Kyoto, November 2004; Department of Electrical & Computer Engineering, Carnegie Mellon University, Nov. 2004; Department of Statistics, University of Goettingen, Germany, June 2004; Department of Informatics, University of Freiburg, Germany, June 2004; Department of Computer Science, ETH, June 2004; Beckman Institute, University of Illinois, Urbana, March 2004; Department of Computer Science, Indian Institute of Technology, Kanpur, Dec. 2003; Department of Computer Science, Hong Kong Polytechnic University, Dec. 2003; Department of Computer Science, Hong Kong University of Science & Technology, Dec. 2003; ECE Dept. Tulane University, New Orleans, Oct. 2003; CSEE Department, West Virginia University, Morgantown, Oct. 2003; "Science at the Edge" Seminar Series, Michigan State University, Sept. 2003; Philips Research Lab, Eindhoven, Sept. 2003; Department of Informatics III, University of Bonn, July 2003; Department of Computer Science, Technical University of Vienna, June 2003; Biometrics Summer School, Sardinia, June 2003; ECE Department, North Carolina State University, March 2003; Statistics Department, Florida State University, Feb. 2003; Computer Science Department, University Notre Dame, Jan. 2003; Dept. of Computer Science, Hong Kong Polytechnic University, Hong Kong Dec. 2002; Computer Science Dept., IUPUI, Indianapolis, Nov. 2002; Financial Sector Technical Committee (NIST), Alexandria, VA, Oct. 2002; Biometric Consortium (BC 2002), Crystal City, VA, Sept. 2002; Department of Computer Science, Sichuan University, Chengdu, Aug. 2002; Pierre Devijver Lecturer, Workshop on Structural & Statistical Patter Recognition, Windsor, Aug. 2002; National Institute of Standards & Technology (NIST), June 2002; CITER, West Virginia University, April 2002; GAO Panel on Biometrics, Washington D.C., April 2002; Department of Computing, University of Alberta, March 2002; NSF Workshop on Pattern Recognition, Ann Arbor, March 2002; Department of Electrical Engineering, University of Texas, Austin, Feb. 2002; Department of Computer Science, University of Bonn, Germany, Jan. 2002; Department of Computer Science, Western Michigan University, Nov. 2001; Department of Computer Science, Oakland University, Nov. 2001; Department of Electrical & Computer Engineering, MSU Sept. 2001; Department of Statistics, University of Michigan, Sept. 2001; Department of Computer Science, Hong Kong University Science & Technology, Aug. 2001; Department of Computer Science, Chulankongkorn University, Bangkok, Aug. 2001; Software Park, Bangkok, Aug. 2001; Department of Computer Science, King Mangkot University, Aug. 2001; Department of Statistics, Ohio State University, May 2001; Department of Electrical & Computer Engineering, University of Miami, Coral Gables, March 2001; National Center for Software Technology, Bombay, Dec. 4, 2000; Department of Computer Science, Indian Institute of Technology, Delhi, Dec. 1, 2000; Department of Electronic Engineering, Nanyang Technical University, Singapore, Nov. 25, 2000; National Laboratory of Pattern Recognition, Beijing, Nov. 23, 2000; Microsoft Research Laboratory, Beijing, Nov. 20-22, 2000; Eaton Corporation, Rochester Hills, Nov. 15, 2000; Department of Electrical Engineering, Istanbul Technical University, Oct. 24, 2000; Marmara Research Center, Istanbul, Oct. 23, 2000; Siemens PSE Division, Graz, Oct. 19, 2000; Siemens ICM Division, Munich, Oct. 18, 2000; Campus Interdisciplinary Seminar, MSU, Oct. 4, 2000; Lawrence Technological University, Southfield, Sept. 27, 2000;

Eaton Corporation, Milwaukee, Aug. 28, 2000; West Virginia EPSCOR Workshop, Charleston, WV, Feb. 1999; University of Surrey, Guildford, England, Jan. 1999; Instituto Superior Tecnico, Lisbon, Portugal, Nov. 1998; West Virginia Science & Technology Council, Morgantown, Nov. 1998; National Laboratory for Pattern Recognition, Beijing, Oct. 1998; Academia Sinica, Taipei, Aug. 1998; National Taiwan University, Taipei, Aug. 1998; Department of Computer Science, University of Auckland, New Zealand, Aug. 1998; Department of Computer Science, New York University, March 1998; University of West Virginia, Morgantown, Jan. 1998; Department of Systems Design, University of Waterloo, Sept. 1997; LG Electronic Research Center, Princeton, Aug. 1997; School of Automation, Indian Institute of Science, Bangalore, July 1997; Bell Labs, Lucent Technologies, Naperville, July 1997; National Centre for Software Technology, Bombay, July 1997; Department of Computer Science, Sichuan Union University, Chengdu, June 1997; Department of Computer Science, Hong Kong University Science & Technology, June 1997; University of Cagliari, Italy, May 1997; Department of Computer Science, Ohio State University, May 1997; University of Indonesia, Jakarta, May 1997; NEC Research Laboratory, Princeton, Feb. 1997;

PATENTS

1. A. K. Jain, U. Park and H. C. Choi, "Apparatus and method for monitoring", Korean Patent No. 10-1170269, July 25, 2012.
2. A. K. Jain, U. Park and H. C. Choi, "Apparatus and method for monitoring using beam splitter", Korean Patent No. 10-1150563, May 21, 2012.
3. A.K. Jain, L. Hong, R. Bolle and S. Pankanti, "System and Method for Deriving a string-based representation of a fingerprint image", U.S. Patent No. 6,487,306, Nov. 26, 2002.
4. A.K. Jain, L. Hong, R. Bolle and S. Pankanti, "Determining A Point Correspondence Between Two Points in Two Respective (Fingerprint) Images", U.S. Patent No. 6, 049,621, April 11, 2000.
5. A.K. Jain, L. Hong, R. Bolle and S. Pankanti, "System and Method for Matching (Fingerprint) Images Using an Aligned String-Based Representation", U.S. Patent No. 6,185,318, Feb. 6, 2001.
6. A.K. Jain, L. Hong, R. Bolle and S. Pankanti, "System and Method For Identifying Foreground And Background Portions Of Digitized Images", U.S. Patent No. 6,263,091, July 17, 2001.
7. A.K. Jain, L. Hong, R. Bolle and S. Pankanti, "System and Method for Determining Block Direction in Fingerprint Images", U.S. Patent No. 6,289,112 Sept. 11, 2001.
8. A.K. Jain, L. Hong, R. Bolle and S. Pankanti, "Determining An Alignment Estimation Between Two (Fingerprint) Images", U.S. Patent No. 6,314,197, Nov. 6, 2001.

PUBLICATIONS

BOOKS

1. S. Z. Li and A. K. Jain (eds.), *Handbook of Face Recognition*, Second Edition, Springer, 2011.
2. A. K. Jain, A. Ross and K. Nandakumar, *Introduction to Biometrics*, Springer, 2011.
3. A. K. Jain, A. Ross and P. J. Flynn (eds.), *Handbook of Biometrics*, Springer, 2007.
4. A. Ross, K. Nandakumar and A. K. Jain, *Handbook of Multibiometrics*, Springer, 2006.
5. S. Z. Li and A. K. Jain (eds.), *Handbook of Face Recognition*, Springer, 2005.
6. J. L. Wayman, A. K. Jain, D. Maltoni and D. Maio (eds.), *Biometric Systems: Technology, Design and Performance Evaluation*, Springer, 2005.
7. D. Maltoni, D. Maio, A. K. Jain and S. Prabhakar, *Handbook of Fingerprint Recognition*, Springer-Verlag, 2003; Second edition, 2009.
8. A. K. Jain, S. Pankanti and R. Bolle (eds.), *BIOMETRICS: Personal Identification in Networked Society*, Kluwer, 1999.

9. A. K. Jain and P. J. Flynn (eds.), *3D Object Recognition Systems*, Elsevier, 1993.
10. R. Chellappa and A. K. Jain (eds.), *Markov Random Fields: Theory and Applications*, Academic Press, 1993.
11. I. Sethi and A. K. Jain (eds.), *Neural Networks and Statistical Pattern Recognition*, North Holland, 1991.
12. R. Jain and A. K. Jain (eds.), *Analysis and Interpretation of Range Images*, Springer Verlag, 1990.
13. A. K. Jain and R. C. Dubes, *Algorithms for Clustering Data*, Prentice Hall, 1988. *One of the top-100 all-time cited publication in Computer Science according to CiteSeer*

EDITED PROCEEDINGS

1. B. Gunsel, A.K. Jain, A.M. Tekalp and B. Sankur (eds.), *Proc. International Workshop on Multimedia, Content Representation, Classification and Security*, Springer, LNCS 4105, 2006
2. D. Zhang and A.K. Jain (eds.), *Proc. International Conference on Biometrics (ICB)*, Springer, LNCS 3832, 2006
3. T. Kanade, A.K. Jain and N. Ratha (eds.), *Proc. Audio-Video-Based Biometric Person Authentication (AVBPA)*, Springer, LNCS 3546, 2005
4. A.K. Jain and N.K. Ratha (eds.), *Proc. SPIE, Biometric Technology for Human Identification II*, Vol. 5779, 2005
5. D. Maltoni and A.K. Jain (eds.), *Biometric Authentication, Proc. ECCV 2004 International Workshop (BioAW)*, Springer, LNCS 3087, 2004
6. D. Zhang and A.K. Jain (eds.), *Proc. First International Conference Biometric Authentication (ICBA)*, Springer, LNCS 3072, 2004
7. A.K. Jain and N.K. Ratha (eds.), *Proc. SPIE, Biometric Technology for Human Identification I*, Vol. 5404, 2004
8. M. Figueiredo, J. Zerubia and A.K. Jain (eds.), *Energy minimization Methods in Computer Vision and Pattern Recognition*, Springer-Verlag, LNCS 2134, 2001
9. A.K. Jain (ed.), *Real Time Object Measurement and Classification*, Springer Verlag, 1988

BOOK CHAPTERS

1. A. K. Jain, K. Nandakumar and A. Nagar, "Fingerprint Template Protection: From Theory to Practice", in *Privacy and Security in Biometrics* (P. Campisi, Ed.), Springer, 2012.
2. A. K. Jain and A. Kumar, "Biometrics of Next Generation: An Overview", in *Second Generation Biometrics* (E. Mordini and D. Tzovaras, Eds.), Springer, 2012.
3. T. Lange, M. Law, A. K. Jain and M. Buhmann, "Clustering with Constraints: A Mean-field Approximation Perspective", in *Constrained Clustering*, S. Basu, I. Davison and K. L. Wagstaff (eds.), CRC Press, 2008.
4. A. Ross and A. K. Jain, "Fusion Techniques in Multibiometric Systems", in *Face Biometrics for Personal Identification*, R. I. Hammound, B. R. Abidi and M. A. Abidi (eds.), Springer, 2007.
5. A. K. Jain and U. Uludag, "Biometrics and Digital Rights Management", in *Multimedia Security Technologies for Digital Rights Management*, Wenjun Zeng, Heather Yu, Ching-Yung Lin (eds), pp. 197-218, Academic Press, 2006.

6. A.K. Jain, K. Nandakumar, U. Uludag and X. Lu, "Multimodal Biometrics: Augmenting Face With Other Cues", in *Face Processing: Advanced Modeling and Methods*, W. Zhao and R. Chellappa (eds.), pp. 679-705, Academic Press, 2005.
7. A. Ross and A. K. Jain, "Multimodal Human Recognition Systems", in *Multi-Sensor Image Fusion and Its Application*. R.S. Blum and Z. Liu (eds.), Taylor & Francis, 2005.
8. A. K. Jain and A. Ross, "Biometrics", in *the Encyclopedia of Cryptography and Security*, Henk C. A. van Tilborg (ed.), Springer, 2005.
9. A.K. Jain and R.P.W. Duin, "Pattern Recognition", in *Oxford Mind Encyclopedia*, R. Gregory (ed.), Oxford University Press, 2004.
10. S. Prabhakar and A.K. Jain, "Fingerprint Matching", in *Advances in Fingerprint Recognition*. N. Ratha and R. Bolle (eds.), Springer, 2003.
11. A.K. Jain, "Biometrics", *Microsoft Encarta*, on-line edition, 2001.
12. A.K. Jain and S. Pankanti, "Automatic Fingerprint Identification Systems", in *Advances in Fingerprint Sciences*, R.E. Gaensslen and H. Lee (eds.), pp. 275-326, CRC Press, 2001.
13. A.K. Jain and S. Pankanti, "Fingerprint Matching and Classification", in *Handbook of Image Processing*, A. Bovik (ed.), pp. 821-835, Academic Press, 2000.
14. M. Figueiredo, J. Leitao and A.K. Jain, "On Fitting Mixture Models", in *Energy Minimization Methods in Computer Vision and Pattern Recognition*, eds. E. Hancock and M. Pellillo, Springer-Verlag, 1999.
15. A.K. Jain and P. Flynn, "Image Segmentation Using Clustering", in *Advances in Image Understanding*, K. Bowyer and N. Ahuja (eds.), IEEE Computer Society Press, pp. 65-83, 1996.
16. N. Ratha, A.K. Jain and D. Rover, "Fingerprint Matching on Splash 2" in *Splash 2: FPGAs in a Custom Computing Machine*, D. Buell, J. Arnold and W. Kleinfolder (eds.), IEEE Computer Society Press, pp. 117-140, 1996.
17. A.K. Jain and J. Mao, "Neural Networks and Pattern Recognition", in *Computational Intelligence for Imitating Life*, J.M. Zurada, R.J. Marks and C.J. Robinson (eds.), IEEE Press, pp. 194-212, 1994.
18. P. Flynn and A.K. Jain, "Three Dimensional Object Recognition", in *Handbook of Pattern Recognition and Image Processing*, T.Y. Young (ed.), Academic Press, 1994, pp. 498-541.
19. M. Tuceryan and A.K. Jain, "Texture Analysis", in *Handbook of Pattern Recognition and Computer Vision*, C.H. Chen, et al. (eds.), World Scientific Publishing Co., 1993, pp. 235-276.
20. A.K. Jain and S. Nadabar, "Markov Random Field Applications in Image Analysis", in *Data Analysis in Astronomy IV*, Di Gesu et al. (eds.), Plenum Press, 1992, pp. 39-50.
21. A.K. Jain, "Bootstrap Techniques in Statistical Pattern Recognition", in *Systems and Signal Processing*, R.N. Madan et al. (eds.), Oxford and IBH Publishing Co., 1991, pp. 525-534.
22. S. Raudys and A.K. Jain, "Small Sample Size Problems in Designing Artificial Neural Networks", in *Neural Networks and Statistical Pattern Recognition*, I. Sethi and A.K. Jain (eds.), North Holland, 1991, pp. 33-50.
23. S. Nadabar and A.K. Jain, "Range Image Segmentation Using MRF Models", in *Markov Random Fields: Theory and Applications*, R. Chellappa and A.K. Jain (eds.), Academic Press, 1993, pp. 543-572.
24. A.K. Jain and M.D. Ramaswami, "Classifier Design with Parzen Windows", in *Pattern Recognition and Artificial Intelligence*, E.S. Gelsema and L.N. Kanal (eds.), North Holland, 1988, pp. 211-228.
25. A.K. Jain, "Pattern Recognition", in *Encyclopedia of Robotics*, R.C. Dorf (ed.), Wiley, 1988, pp. 1052-1063.

26. A.K. Jain, "Advances in Statistical Pattern Recognition", in *Pattern Recognition Theory and Applications*, P.A. Devijver and J. Kittler (eds.), Springer Verlag, 1987, pp. 1-19.
27. A.K. Jain and J.V. Moreau, "The Bootstrap Approach to Clustering", in *Pattern Recognition Theory and Applications*, P.A. Devijver and J. Kittler (eds.), Springer Verlag, 1987, pp. 63-71.
28. A.K. Jain, "Cluster Analysis", in *Handbook of Pattern Recognition and Image Processing*, T.Y. Young and K.S. Fu (eds.), Academic Press, 1987, pp. 35-57.
29. L. Ni and A.K. Jain, "Design of a Pattern Cluster using Two Level Pipelined Systolic Array", in *VLSI for Pattern Recognition and Image Processing*, K.S. Fu (ed.), Springer Verlag, 1984, pp. 65-83.
30. A.K. Jain and B. Chandrasekaran, "Dimensionality and Sample Size Considerations, in *Pattern Recognition Practice*", *Handbook of Statistics*, Vol. II, P. R. Krishnaiah and L.N. Kanal (eds.), North Holland, 1982, pp. 835-855.
31. N. Wyse, R. Dubes and A.K. Jain, "A Critical Review of Intrinsic Dimensionality Algorithms", in *Pattern Recognition in Practice*, E.S. Gelsema and L.N. Kanal (eds.), North Holland, 1980, pp. 415-425.
32. R. Dubes and A.K. Jain, "Clustering Methodologies in Exploratory Data Analysis", in *Advances in Computers*, Vol. 19, M. Yovits (ed.), Academic Press, 1980, pp. 113-228.

JOURNAL ARTICLES

1. S. Bucak, R. Jin, and A. K. Jain, "Multiple Kernel Learning for Visual Object Recognition: A Review", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2013 (To Appear).
2. E. Liu, A. K. Jain, and J. Tien, "A Coarse to Fine Minutiae-Based Latent Palmprint Matching", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 35, No. 10, pp. 2307-2322, 2013.
3. B. Klare and A. K. Jain, "Heterogeneous Face Recognition using Kernel Prototype Similarities", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 35, No. 6, pp. 1410-1422, 2012.
4. S. Liao, A. K. Jain, and S. Z. Li, "Partial Face Recognition: Alignment-Free Approach", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 35, No. 5, pp. 1193-1205, 2012.
5. J. Feng, J. Zhou, and A. K. Jain, "Orientation Field Estimation for Latent Fingerprint Enhancement", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 35, No. 4, pp. 925-940, 2012.
6. L. Wu, R. Jin and A. K. Jain, "Tag Completion for Image Retrieval", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 35, No. 3, pp. 716-727, March 2013.
7. H. Han, B. Klare, K. Bonnen, and A. K. Jain, "Matching Composite Sketches to Face Photos: A Component-Based Approach", *IEEE Transactions on Information Forensics and Security*, Vol. 8, No. 1, pp. 191-204, January 2013.
8. K. Bonnen, B. Klare, and A. K. Jain, "Component-Based Representation in Automated Face Recognition", *IEEE Transactions on Information Forensics and Security*, Vol. 8, No. 1, pp. 239-253, January 2013.
9. A. A. Paulino, J. Feng, and A. K. Jain, "Latent Fingerprint Matching Using Descriptor-Based Hough Transform", *IEEE Transactions on Information Forensics and Security*, Vol. 8, No. 1, pp. 31-45, January 2013.
10. A. Nagar, H. S. Choi, and A. K. Jain, "Evidential Value of Automated Latent Fingerprint Comparison: An Empirical Approach", *IEEE Transactions on Information Forensics and Security*, Vol. 7, No. 6, pp. 1752-1765, December 2012.

11. B. F. Klare, M. Burge, J. Klontz, R. W. Vorder Bruegge, and A. K. Jain, "Face Recognition Performance: Role of Demographic Information", *IEEE Transactions on Information Forensics and Security*, Vol. 7, No. 6, pp. 1789-1801, December 2012 .
12. Z. Lei, S. Liao, A. K. Jain, and S. Z. Li, "Coupled Discriminant Analysis for Heterogeneous Face Recognition", *IEEE Transactions on Information Forensics and Security*, Vol. 7, No. 6, pp. 1701-1716, December 2012.
13. Q. Zhao and A. K. Jain, "Model-Based Separation of Overlapping Latent Fingerprints", *IEEE Transactions on Information Forensics and Security*, Vol. 7, No. 3, pp. 904-918, June 2012.
14. A. Nagar, K. Nandakumar, and A. K. Jain, "Multibiometric Cryptosystems based on Feature Level Fusion", *IEEE Transactions on Information Forensics and Security*, Vol. 7, No. 1, pp. 255-268, February 2012.
15. A. K. Jain and K. Nandakumar, "Biometric Authentication: System Security and User Privacy", *IEEE Computer*, November, 2012.
16. A. K. Jain, R. Jin, and J.-E. Lee, "Tattoo Image Matching and Retrieval", *IEEE Computer*, Vol. 45, No. 5, pp. 93-96, May, 2012.
17. A. K. Jain and S. Yoon, "Automatic Detection of Altered Fingerprints", *IEEE Computer*, Vol. 45, No. 1, pp. 79-82, January, 2012.
18. J.-E. Lee, W. Tong, R. Jin, and A. K. Jain, "Image Retrieval in Forensics: Tattoo Image Database Application", *IEEE Multimedia*, Vol. 19, No. 1, pp. 40-49, 2012.
19. A. K. Jain, B. Klare, and U. Park, "Face Matching and Retrieval in Forensics Applications", *IEEE Multimedia*, Vol. 19, No. 1, pp. 20-28, 2012.
20. Y.-B. Lee, U. Park, and A. K. Jain, "PILL-ID Matching and Retrieval of Drug Pill Images", *Pattern Recognition Letters*, Vol. 33, No. 7, pp. 904-910, May 2012.
21. K. Nguyen, B. Sabata, and A. K. Jain, "Prostate Cancer Grading: Gland Segmentation and Structural Features", *Pattern Recognition Letters*, Vol. 33, No. 7, pp. 951-961, May 2012.
22. S. Yoon, J. Feng, and A. K. Jain, "Altered Fingerprints: Analysis and Detection", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 34, No. 3, pp. 451-464, March 2012.
23. K. Nguyen, A. K. Jain, and B. Sabata, "Prostate Cancer Detection: Fusion of Cytological and Textural Features", *Journal of Pathology Informatics*, Vol. 2, No. 2, p. 3, 2011.
24. S. Prabhakar, A. Ivanisov, and A. K. Jain, "Biometric Recognition: Sensor Characteristics and Image Quality", *IEEE Instrumentation & Measurement Society Magazine*, Vol. 14, No. 3, pp. 10-16, June 2011.
25. A. K. Jain, and B. Klare, "Matching Forensic Sketches and Mug Shots to Apprehend Criminals", *IEEE Computer*, Vol.44, No. 5, pp. 94-96, May 2011.
26. Z. Li, U. Park, and Anil K. Jain, "A Discriminative Model for Age Invariant Face Recognition," *IEEE Transactions on Information Forensics and Security*, Vol. 6, No. 3, pp. 1028-1037, September 2011.
27. H.-I. Suk, A. K. Jain, and S.-W. Lee, "A Network of Dynamic Probabilistic Models for Human Interaction Analysis", *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 21, No. 7, pp. 932-945, July 2011.
28. F. Chen, J. Feng, A. K. Jain, J. Zhou, and J. Zhang, "Separating Overlapped Fingerprints", *IEEE Transactions on Information Forensics and Security*, Vol. 6, No. 2, pp. 346-359, June 2011.
29. T. Bourlai, A. Ross, and A. K. Jain, "Restoring Degraded Face Images: A Case Study in Matching Faxed, Printed and Scanned Photos", *IEEE Transactions on Information Forensics and Security*, Vol. 6, No. 2, pp. 371-384, June 2011.

30. U. Park, R. Jillela, A. Ross and A. K. Jain, "Periocular Biometrics in the Visible Spectrum", *IEEE Transactions on Information Forensics and Security*, Vol. 6, No. 1, pp. 96-106, March 2011.
31. B. Klare, Z. Li, and A. K. Jain, "Matching Forensic Sketches to Mugshot Photos", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 33, No. 3, pp. 639-646, March 2011.
32. J. Feng and A. K. Jain, "Fingerprint Reconstruction: From Minutiae to Phase", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 33, No. 2, pp. 209-223, February 2011.
33. A. K. Jain and J. Feng, "Latent Fingerprint Matching", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 33, No. 1, pp. 88-100, January 2011.
34. K. Niinuma, U. Park, and A. K. Jain, "Soft Biometric Traits For Continuous User Authentication", *IEEE Transactions on Information Forensics and Security*, Vol. 5, No. 4, pp. 771-780, December 2010.
35. U. Park and A. K. Jain, "Face Matching and Retrieval Using Soft Biometrics", *IEEE Transactions on Information Forensics and Security*, Vol. 5, No. 3, pp. 406-415, September 2010.
36. A. K. Jain, "Data Clustering: 50 Years Beyond K-Means", *Pattern Recognition Letters*, Vol. 31, No. 8, pp. 651-666, June 2010.
37. A. Nagar, K. Nandakumar, and A. K. Jain, "A hybrid biometric cryptosystem for securing fingerprint minutiae templates", *Pattern Recognition Letters*, Vol. 31, No. 8, pp. 733-741, June 2010.
38. U. Park, Y. Tong and A.K. Jain, "Age-invariant Face Recognition", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 32, No. 5, pp. 947-954, May 2010.
39. Y. C. Feng, P. C. Yuen and A. K. Jain, "A Hybrid Approach for Generating Secure and Discriminating Face Template", *IEEE Transactions on Information Forensics & security*, Vol. 5, No. 1, pp. 103-117, March 2010.
40. A. K. Jain, J. Feng and K. Nandakumar, "Fingerprint Matching", *IEEE Computer*, pp. 36-44, February 2010.
41. P. K. Mallapragada, R. Jin, A. K. Jain and Y. Liu, "SemiBoost: Boosting for Semi-supervised Learning", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 31, No. 11, pp. 2000-2014, November 2009.
42. A. K. Jain and J. Feng, "Latent Palmprint Matching", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 31, No. 6, pp. 1032-1047, June 2009.
43. X. Lu and A. K. Jain, "Deformation Modeling for Robust 3D Face Matching", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 30, No. 8, pp. 1346-1357, Aug. 2008.
44. K. Nandakumar, Y. Chen, S. C. Dass and A. K. Jain, "Likelihood Ratio Based Biometric Score Fusion", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 30, No. 2, pp. 342-347, Feb. 2008.
45. A. K. Jain, K. Nandakumar and A. Nagar, "Biometric Template Security", *EURASIP Journal on Advances in Signal Processing, Special Issue on Advanced Signal Processing and Pattern Recognition Methods for Biometrics*, Vol. 2008, ArticleID 579416, Jan. 2008.
46. K. Nandakumar, A. K. Jain and S. Pankanti, "Fingerprint-based Fuzzy Vault: Implementation and Performance", *IEEE Transactions on Information Forensics and Security*, Vol. 2, No. 4, pp. 744-757, December 2007.
47. A. K. Jain, "Biometric Recognition: Q & A", *Nature*, Vol. 449, pp. 38-40, Sept. 2007.

48. S. C. Dass, Y. Zhu and A. K. Jain, "Statistical Models for Assessing the Individuality of Fingerprints", *IEEE Transactions on Information Forensics and Security*, Vol. 2, No. 3, pp. 391-401, Sept. 2007.
49. A. Ross, J. Shah and A. K. Jain, "From Templates to Images: Regenerating Fingerprints From Minutiae Points", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 29, No. 4, pp. 544-560, April 2007.
50. M. Farmer and A.K. Jain, "Smart Automotive Airbags: Occupant Classification and Tracking", *IEEE Transactions on Vehicular Technology*, Vol. 52, No. 1, pp. 60-80, Jan. 2007.
51. A.K. Jain, Y. Chen and M. Demirkus, "Pores and Ridges: Fingerprint Matching Using Level 3 Features", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 29, No. 1, pp. 15-27, Jan. 2007.
52. S. C. Dass, Y. Zhu and A. K. Jain, "Validating a Biometric Authentication System: Sample Size Requirements", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 28, No. 12, pp. 1902-1913, Dec. 2006.
53. A. K. Jain, A. Ross and S. Pankanti, "Biometrics: A Tool for Information Security", *IEEE Transactions on Information Forensics and Security*, Vol. 1, No. 2, pp. 125-143, June 2006.
54. M. H. Law and A. K. Jain, "Incremental Nonlinear Dimensionality Reduction by Manifold Learning", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 28, No. 3, pp. 377-391, Mar. 2006.
55. M. Farmer and A.K. Jain, "Wrapper-Based Approach to Image Segmentation And Classification", *IEEE Transactions on Image Processing*, Vol.14, No. 12, pp. 2060-2072, Dec. 2005
56. Xiaoguang Lu, Anil K. Jain, and Dirk Colbry, "Matching 2.5D Face Scans to 3D Models," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol.28, No. 1, pp. 31-43, Jan. 2006.
57. A. Ross, S. Dass and A. K. Jain, "Fingerprint Warping Using Ridge Curve Correspondences", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 28, No.1, pp. 19-30, Jan. 2006.
58. R. Cappelli, D. Maio, D. Maltoni, J.L. Wayman and A.K. Jain, "Performance Evaluation of Fingerprint Verification Systems", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 28, No. 1, pp. 3-18, Jan. 2006.
59. A. Topchy, A.K. Jain, W. Punch, "Clustering Ensembles: Models of Consensus and Weak Partitions", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol, 27, No. 12, pp. 1866-1881, Dec 2005.
60. A.K. Jain, K. Nandakumar and A. Ross, "Score Normalization in Multimodal Biometric Systems", *Pattern Recognition*, Vol. 38, No. 12, pp. 2270-2285, December 2005. (Best Paper Award)
61. H. Chen and A.K. Jain, "Dental Biometrics: Alignment and Matching of Dental Radiographs", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 27, No. 8, pp. 1319-1326, August 2005.
62. A. Fred and A.K. Jain, "Combining Multiple Clusterings Using Evidence Accumulation", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 27, No. 8, pp. 835-850, June 2005.
63. R. Snelick, U. Uludag, A. Mink, M. Indovina and A.K. Jain, "Large Scale Evaluation of Multimodal Biometric Authentication Using State-of-the-Art Systems", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 27, No. 3, pp. 450-455, March 2005.
64. A. Ross, S. Dass and A.K. Jain, "A Deformable Model for Fingerprint Matching", *Pattern Recognition*, Vol. 38, No. 1, pp. 95-103, Jan. 2005.

65. M.H. Law, M.A.T. Figueiredo, and A.K. Jain, "Simultaneous Feature Selection and Clustering Using Mixture Models", *IEEE Transactions Pattern Analysis and Machine Intelligence*, vol. 26, no. 9, pp. 1154-1166, Sept. 2004.
66. U. Uludag, A. Ross and A.K. Jain, "Biometric Template Selection and Update: A Case Study in Fingerprints", *Pattern Recognition*, Vol. 37, No. 7, pp. 1533-1542, July 2004.
67. A.K. Jain and Chen Hong, "Matching of Dental X-ray Images for Human Identification", *Pattern Recognition*, Vol. 37, No. 7, pp. 1519-1532, July 2004.
68. U. Uludag, S. Pankanti, S. Prabhakar and A.K. Jain, "Biometric Cryptosystems: Issues and Challenges", *Proc. IEEE, Special Issue on Multimedia Security for Digital Rights Management*, Vol. 92, No. 6, pp. 948-960, June 2004.
69. K. Jung, K. Kim and A.K. Jain, "Text Information Extraction in Images and Video: A Survey", *Pattern Recognition*, Vol. 37, No. 5, pp. 977-997, May 2004.
70. A.K. Jain, A. Ross and S. Prabhakar, "An Introduction to Biometric Recognition", *IEEE Transactions on Circuits and Systems for Video Technology, Special Issue on Image- and Video-Based Biometrics*, Vol. 14, No. 1, pp. 4-20, Jan. 2004.
71. A.K. Jain and A. Ross, "Multibiometric Systems", *Comm. ACM*, Vol. 47, No. 1, pp. 34-40, Jan. 2004.
72. A. Namboodiri and A.K. Jain, "On-Line Handwritten Script Recognition", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 26, No. 1, pp. 124-130, Jan. 2004.
73. R.L. Hsu and A.K. Jain, "Generating Discriminating Cartoon Faces Using Interacting Snakes", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 25, No. 11, pp. 1388-1398, Nov. 2003.
74. A.K. Jain and U. Uludag, "Hiding Biometric Data", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 25, No. 11, pp. 1494-1498, Nov. 2003.
75. S. Prabhakar, A.K. Jain and S. Pankanti, "Learning Fingerprint Minutiae Location and Type", *Pattern Recognition*, Vol. 36, No. 8, pp. 1847-1857, 2003.
76. A. Ross and Anil Jain, "Information Fusion in Biometrics", *Pattern Recognition Letters*, Vol. 24, Issue 13, pp. 2115-2125, Sept. 2003.
77. S. Prabhakar, S. Pankanti, and A.K. Jain, "Biometric Recognition: Security & Privacy Concerns", *IEEE Security & Privacy Magazine*, vol. 1, no. 2, pp. 33-42, March-April 2003.
78. A. K. Jain and S. Prabhakar "Biometrics Authentication", *INSIGHT: A Publication of the Institute for the Advancement of Emerging Technologies in Education*, Vol. 2, pp. 29-52, Jan 2003.
79. A. Ross, A.K. Jain, and J. Reisman, "A Hybrid Fingerprint Matcher", *Pattern Recognition*, Vol. 36, No. 7, pp. 1661-1673, 2003.
80. N. Duta, A.K. Jain and K.V. Mardia, "Matching of Palmprints", *Pattern Recognition Letters*, Vol. 23, pp. 477-485, 2002.
81. S. Pankanti, S. Prabhakar and A.K. Jain, "On the Individuality of Fingerprints", *Fingerprint World*, Vol. 28, No. 109, July 2002.
82. G.D. Guo, A.K. Jain, W.-Y. Ma and H.-J. Zhang, "Learning Similarity Measure for Natural Image Retrieval with Relevance Feedback", *IEEE Transactions on Neural Networks*, Vol. 13, pp. 811-820, July 2002.
83. R.L. Hsu, M. Adbel-Mottaleb and A.K. Jain, "Face Detection in Color Images", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 24, pp. 696-707, May 2002.
84. A. Vailaya, H.J. Zhang, C. J. Yang, F.I. Liu, and A.K. Jain, "Automatic Image Orientation Detection", *IEEE Transactions on Image Processing*, Vol. 11, pp. 746-755, July 2002.

85. S. Pankanti, S. Prabhakar and A.K. Jain, "On the Individuality of Fingerprints," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 24, pp. 1010-1025, Aug. 2002.
86. A.K. Jain, Friedericke D. Griess and Scott D. Connell, "On-line Signature Verification," *Pattern Recognition*, Vol. 35, pp. 2963-2972, Dec. 2002.
87. A.K. Jain, S. Prabhakar and S. Pankanti, "On the Similarity of Identical Twin Fingerprints," *Pattern Recognition*, vol. 35, pp. 2653-2663, Nov. 2002.
88. D. Maio, D. Maltoni, R. Cappelli, J. Wayman and A.K. Jain, "FVC2000: Fingerprint Verification Competition," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 24, No. 3, pp. 402-412, March 2002.
89. A.K. Jain, S. Prabhakar and S. Pankanti, "Matching and Classification: A case study in fingerprint domain", *Proc. Indian National Science Academy, Vol. 67(A), No. 2, Special Issue on Image Processing, Vision and Pattern Recognition*, pp. 223-241, March 2001.
90. M.A.T. Figueiredo and A.K. Jain, "Unsupervised Learning of Finite Mixture Models", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 24, No. 3, pp. 381-396, March 2002.
91. S.D. Connell and A.K. Jain, "Writer Adaptation for Online Handwriting Recognition", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 24, No. 3, pp. 329-346, March 2002.
92. J. Liu, F.B. Dazzo, O. Glagoleva, B. Yu and A.K. Jain, "CMEIAS: A Computer Aided System for the Image Analysis of Bacterial Morphotypes in Microbial Communities", *Microbial Ecology*, Vol. 41, pp. 173-194, 2001.
93. A.K. Jain and S. Pankanti, "Biometric Systems: Anatomy of Performance", *IEICE Transactions on Fundamentals*, Vol. E84-D, No. 7, pp. 788-799, July 2001.
94. S. Prabhakar and A.K. Jain, "Decision Level Fusion in Fingerprint Verification, *Pattern Recognition*, Vol. 35, No. 4, pp. 861-874, April 2002.
95. B. Kamgar-Parsi, B. Kamgar-Parsi, A.K. Jain and J. Dayhoff, "Aircraft Detection: A Case Study in Using Human Similarity Measure", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol.23, pp. 1404-1414, Dec. 2001.
96. N. Duta, A.K. Jain and M.-P. Dubuisson-Jolly, "Automatic Construction of 2D Shape Models", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2001, Vol. 23, pp. 433-446, May 2001.
97. A. Vailaya, M. Figueiredo, A.K. Jain and H.J. Zhang, "Bayesian Framework for Hierarchical Semantic Classification of Vacation Images", *IEEE Transactions on Image Processing*, Vol. 10, No. 1, pp. 157-172, Jan. 2001.
98. S. Connell and A.K. Jain, "Template-based On-Line Character Recognition", *Pattern Recognition*, Vol. 34, No. 1, pp. 1-14, Jan. 2001.
99. M. Raymer, W. Punch, E. Goodman, L. Kuhn and A.K. Jain, "Dimensionality Reduction Using Genetic Algorithms", *IEEE Transactions on Evolutionary Computation*, Vol. 4, No. 2, July 2000.
100. Y. Zhong, A.K. Jain and M.P. Dubuisson-Jolly, "Object Tracking Using Deformable Templates", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 22, pp. 544-549, May 2000.
101. A.K. Jain and C. Dorai, "3D Object Recognition: Representation and Matching", *Statistics and Computing*, Vol. 10, No. 2, pp. 167-182, 2000.
102. M.T. Figueiredo, J. Leita0 and A.K. Jain, "Unsupervised Contour Representation and Estimation Using B-Splines and a Minimum Description Length Criterion", *IEEE Transactions on Image Processing*, Vol. 9, No. 6, pp. 1075-1087, June 2000.

103. A.K. Jain, S. Prabhakar, L. Hong and S. Pankanti, "Filterbank-based Fingerprint Matching", *IEEE Transactions on Image Processing*, Vol. 9, No. 5, pp. 846-859, May 2000.
104. Y. Zhong, H.J. Zhang and A.K. Jain, "Automatic Caption Localization in Compressed Video", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 22, No. 4, pp. 385-393, April 2000.
105. Y. Zhong and A.K. Jain, "Object Localization Using Color, Texture and Shape", *Pattern Recognition*, Vol. 33, No. 4, pp. 671-684, April 2000.
106. S. Pankanti, R. Bolle and A.K. Jain, "Biometrics: The Future of Identification (Guest Editor's Introduction)", *IEEE Computer*, pp. 2-5, Feb. 2000.
107. A.K. Jain, L. Hong and S. Pankanti, "Biometric Identification", *Comm. ACM*, Vol. 43, pp. 90-98, Feb. 2000.
108. A.K. Jain, R. Duin and J. Mao, "Statistical Pattern Recognition: A Review", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 22, pp. 4-37, Jan. 2000.
109. J. Liu and A.K. Jain, "Image-based Form Document Retrieval", *Pattern Recognition*, Vol. 33, No. 3, pp. 503-513, 2000.
110. A.R. Jimenez, A.K. Jain, R. Ceres and J.L. Pons, "Automatic Fruit Recognition: A Survey and New Results Using Range/Attenuation Images", *Pattern Recognition*, Vol. 32, pp. 1719-1736, 1999.
111. A.K. Jain, S. Prabhakar and S. Chen, "Combining Multiple Matchers for High Security Fingerprint Verification System", *Pattern Recognition Letters*, Vol. 20, pp. 1371-1379, 1999.
112. A.K. Jain, M. Narasimha Murty and P.J. Flynn, "Data Clustering: A Review", *ACM Computing Surveys*, Vol. 31, No. 3, pp. 264-323, Sept. 1999. *Top 10 Most Popular Magazine and Computing Surveys Article downloaded in 2004.*
113. J. Strand, T. Taxt and A.K. Jain, "Two-Dimensional Phase Unwrapping Using a Block Least Squares Method", *IEEE Transactions on Image Processing*, Vol. 8, No. 3, pp. 375-386, 1999.
114. A.K. Jain, S. Prabhakar and L. Hong, "A Multichannel Approach to Fingerprint Classification", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 21, No. 4, pp. 348-359, 1999.
115. A.K. Jain, A. Vailaya and W. Xiong, "Query by Video Clip", *Multimedia Systems*, Vol. 7, No. 5, pp. 369-384, 1999.
116. N. Ratha and A.K. Jain, "Computer Vision Algorithms on Reconfigurable Logic Arrays", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 10, No. 1, pp. 29-43, 1999.
117. Y.H. Li and A.K. Jain, "Classification of Text Documents", *The Computer Journal*, Vol. 41, No. 8, 1998.
118. A.K. Jain, Y. Zhong and M.-P. Jolly, "Deformable Templates: A Review", *Signal Processing*, Vol. 71, pp. 109-129, 1998.
119. L. Hong and A.K. Jain, "Integrating Faces and Fingerprints", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 20, No. 12, pp. 1295-1307, Dec. 1998.
120. S.W. Chen, S.T. Tung, C.Y. Fang, S. Cherng and A.K. Jain, "Extended Attributed String Matching for Shape Recognition", *Computer Vision and Image Understanding*, Vol. 70, No. 1, pp. 36-50, 1998.
121. L. Hong Y. Wan and A.K. Jain, "Fingerprint Image Enhancement: Algorithm and Performance Evaluation", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 20, No. 8, pp. 777-789, 1998.
122. D. Judd, P. McKinley and A.K. Jain, "Large-Scale Parallel Data Clustering", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 20, No. 8, pp. 871-876, 1998.

123. A. Vailaya, A.K. Jain and H.J. Zhang, "On Image Classification: City Images vs. Landscapes", *Pattern Recognition*, Vol. 31, No. 12, pp. 1921-1935, 1998.
124. A.K. Jain and B. Yu, "Automatic Text Location in Images and Video Frames", *Pattern Recognition*, Vol. 31, No. 12, pp. 2055-2076, 1998.
125. A.K. Jain and A. Vailaya, "Shape-Based Retrieval: A Case Study with Trademark Image Databases", *Pattern Recognition*, Vol. 31, No. 9, pp. 1369-1390, 1998.
126. A.K. Jain and B. Yu, "Document Representation and its Application to Page Decomposition", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 20, No. 3, pp. 294-308, 1998.
127. A.K. Jain, L. Hong, S. Pankanti and R. Bolle, "An Identity Authentication System Using Fingerprints", *Proc. IEEE*, Vol. 85, No. 9, pp. 1365-1388, 1997.
128. A.K. Jain and D. Zongker, "Representation and Recognition of Handwritten Digits Using Deformable Templates", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 12, pp. 1386-1391, 1997.
129. C. Dorai, G. Wang, A.K. Jain and C. Mercer, "From Images to Models: Automatic 3D Object Model Construction from Multiple Views", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 20, No. 1, pp. 82-89, 1998.
130. C. Dorai and A.K. Jain, "COSMOS: A Representation scheme for 3D Free-Form Objects", *IEEE Trans Pattern Analysis and Machine Intelligence*, Vol. 19, No. 10, pp. 1115-1130, 1997.
131. C. Dorai, J. Weng and A.K. Jain, "Optimal Registration of Multiple Object Views", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 10, pp. 1131-1138, 1997.
132. C. Dorai and A.K. Jain, "Shape Spectrum-Based View Grouping and matching of 3D Free-Form Objects", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 10, pp. 1139-1145, 1997.
133. O. Trier, T. Taxt and A.K. Jain, "Recognition of Digits in Hydrographic Maps: Binary Versus Topographic Analysis", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 4, pp. 399-404, 1997.
134. A.K. Jain, L. Hong and R. Bolle, "On Line Fingerprint Verification", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 4, pp. 302-314, 1997.
135. A.K. Jain and D. Zongker, "Feature Selection: Evaluation, Application, and Small Sample Performance", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 2, pp. 153-158, 1997.
136. M. Gokmen and A.K. Jain, "-Space Representation of Images and Generalized Edge Detector", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 6, pp. 545-563, 1997.
137. H. Dulimarta and A.K. Jain, "Mobile Robot Localization in Indoor Environment", *Pattern Recognition*, Vol. 30, No. 1, pp. 99-111, 1997.
138. A.K. Jain, N. Ratha and S. Lakshmanan, "Object Detection Using Gabor Filters", *Pattern Recognition*, Vol. 30, No. 2, pp. 295-309, 1997.
139. A.K. Jain and C. Dorai, "Practicing Vision: Integration, Evaluation and Applications", *Pattern Recognition*, Vol. 30, No. 2, pp. 193-196, 1997. *This paper won Honorable Mention in the Best Paper Award Contest of the Pattern Recognition Society, 1997.*
140. A. Schistad Solberg and A.K. Jain, "Texture Fusion and Feature Selection Applied to SAR Imagery", *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 35, No. 2, pp. 475-479, March 1997.
141. J. Kuo, J. Deller, and A.K. Jain, "Pre/post-filter for performance improvement of transform coding", *Signal Processing: Image Communication*, 8, pp. 229-239, 1996.

142. B. Yu and A.K. Jain, "A Generic System for Form Dropout", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, No. 11, pp. 1127-1134, 1996.
143. N. Ratha, S. Chen, K. Karu and A.K. Jain, "A Real-time Matching System for Large Fingerprint Databases", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, 8, pp. 799-813, 1996.
144. G. Gimel'farb and A.K. Jain, "On Retrieving Textured Images from an Image Database", *Pattern Recognition*, Vol. 29, No. 9, pp. 1461-1484, Sept. 1996.
145. K. Karu, A.K. Jain and R. Bolle, "Is there Texture in the Image?", *Pattern Recognition*, Vol. 29, No. 9, pp. 1437-1446, Sept. 1996. This paper won Honorable Mention in the Best Paper Award Contest of the Pattern Recognition Society, 1996.
146. A.K. Jain, J. Mao, and M. Mohiuddin "Neural Networks: A Tutorial", *IEEE Computer*, Vol. 29, 3, pp. 31-44, March 1996.
147. B. Yu and A.K. Jain, "A Robust and Fast Skew Detection Algorithm for Generic Documents", *Pattern Recognition*, Vol. 29, No. 10, pp. 1599-1630, Oct. 1996.
148. A.K. Jain and A. Vailaya, "Image Retrieval Using Color and Shape", *Pattern Recognition*, Vol. 29, No. 8, pp. 1233-1244, 1996.
149. H. Dulimarta and A.K. Jain, "A Client/Server Control Architecture for Robot Navigation", *Pattern Recognition*, Vol. 29, No. 8, pp. 1259-1284, 1996.
150. O. Trier, A.K. Jain and T. Taxt, "Feature Extraction Methods for Character Recognition-A Survey", *Pattern Recognition*, Vol. 29, 3, pp. 641-662, April 1996.
151. S. Nadabar and A.K. Jain, "Parameter Estimation in Markov Random Field Line Process Models", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, No. 3, pp. 326-329, March 1996.
152. A. K. Jain, Y. Zhong and S. Lakshmanan "Object Matching Using Deformable Templates", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, No. 3, pp. 267-278, March 1996.
153. M.P. Dubuisson, S. Lakshmanan and A.K. Jain, "Vehicle Segmentation Using Deformable Templates", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, No. 3, pp. 293-308, March 1996.
154. A.K. Jain and Y. Zhong, "Page Segmentation Using Texture Analysis", *Pattern Recognition*, Vol. 29, No. 5, pp. 743-770, May 1996.
155. K. Karu and A.K. Jain, "Fingerprint Classification", *Pattern Recognition*, Vol. 29, No. 3, pp. 389-404, 1996. This paper won Honorable Mention in the Best Paper Award Contest of the Pattern Recognition Society, 1996.
156. A. Schistad Solberg, A.K. Jain and T. Taxt, "A Markov Random Field Model for Classification of Multisource Satellite Imagery", *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 34, No. 1, pp. 100-113, Jan. 1996.
157. J. Mao and A.K. Jain, "A Self-Organizing Network for Hyper-Ellipsoidal Clustering (HEC)", *IEEE Transactions on Neural Networks*, Vol. 7, 1, pp. 16-29, Jan. 1996.
158. B. Günsel, A.K. Jain and E. Panayirci, "Reconstruction and Boundary Estimation of Range and Intensity Images Using Multiscale MRF Representations", *CVGIP: Image Understanding*, Vol. 63, 2, pp. 353-366, March 1995.
159. N. Ratha, S. Chen and A.K. Jain, "Adaptive Flow Orientation Based Feature Extraction in Fingerprint Images", *Pattern Recognition*, Vol. 28, pp. 1657-1672, Nov. 1995.
160. Y. Zhong, K. Karu and A.K. Jain, "Locating Text in Complex Color Images", *Pattern Recognition*, Vol. 28, 10, pp. 1523-1536, Oct. 1995.

161. S. Pankanti and A.K. Jain, "Integrating Vision Modules: Stereo, Shading, Grouping, and Line Labeling", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 17, pp. 831-842, Sept. 1995.
162. T. Newman and A.K. Jain, "A System for 3D CAD-Based Inspection Using Range Images", *Pattern Recognition*, Vol. 28, pp. 1555-1574, Oct. 1995.
163. M. Narasimha Murty and A.K. Jain, "Knowledge-Based Clustering Scheme for Collection Management and Retrieval of Library Books", *Pattern Recognition*, pp. 949-964, 1995.
164. A.K. Jain and K. Karu, "Learning Texture Discrimination Masks", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, 2, pp. 195-205, Feb. 1996.
165. O. Trier and A.K. Jain, "Goal-Directed Evaluation of Binarization Methods", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 17, pp. 1191-1201, Dec. 1995.
166. M. Kraaijveld, J. Mao and A.K. Jain, "A Non-Linear Projection Method Based on Kohonen's Topology Preserving Maps", *IEEE Transactions on Neural Networks*, Vol. 6, pp. 548-559, May 1995.
167. M.-P. Dubuisson, A.K. Jain and W.C. Taylor, "Segmentation and Matching of Vehicles in Road Images", *Transportation Research Record*, No. 1412, pp. 57-63, 1993.
168. A. Schistad Solberg, A.K. Jain and T. Taxt, "Multisource Classification of Remotely Sensed Data: Fusion of Landsat TM and SAR Images", *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 32, pp. 768-778, July 1994.
169. T. Newman and A.K. Jain, "A Survey of Automated Visual Inspection", *CVGIP: Image Understanding*, Vol. 61, pp. 231-262, March 1995.
170. J. Mao, P. Flynn and A.K. Jain, "Integration of Multiple Feature Groups and Multiple Views into a 3D Object Recognition System", *CVGIP: Image Understanding*, Vol. 62, pp. 309-329, Nov. 1995. Reprinted in *Applications of Invariance in Computer Vision*, Lecture Notes in Computer Science, Vol. 825, Springer Verlag, 1994.
171. M.-P. Dubuisson and A.K. Jain, "Contour Extraction of Moving Objects in Complex Outdoor Scenes", *International Journal of Computer Vision*, Vol. 14, pp. 83-105, 1995.
172. J. Mao and A.K. Jain, "Neural Networks for Feature Extraction and Multivariate Data Projection", *IEEE Transactions on Neural Networks*, Vol. 6, pp. 296-317, March 1995. This paper received the 1996 IEEE Transactions on Neural Networks Outstanding Paper Award.
173. M.P. Dubuisson, A.K. Jain and M.K. Jain "Segmentation and Classification of Bacterial Culture Images", *Journal of Microbiological Methods*, Vol. 19, pp. 279-295, 1994.
174. Y. Chen and A.K. Jain, "Address Block Location Using Color and Texture Analysis", *CVGIP: Image Understanding*, Vol. 60, 2, pp. 179-190, 1994.
175. S. Nadabar and A.K. Jain, "Bayesian Approach to Sensor Fusion: Implementation on a Connection Machine (CM-2)", *Pattern Recognition*, Vol. 28, No. 1, pp. 11-26, 1995.
176. N.S. Raja and A.K. Jain, "Obtaining Generic Parts from Range Images using a Multi-View Representation", *CVGIP: Image Understanding*, Vol. 60, 1, pp. 44-64, July 1994.
177. P. Flynn, T. Newman and A.K. Jain, "Model-Based Classification of Quadric Surfaces", *CVGIP: Image Understanding*, Vol. 58, No. 2, pp. 235-249, Sept. 1993.
178. S. Raudys and A.K. Jain, "On Training Sample Size and Complexity of Artificial Neural Net Classifier", *INFORMATICA*, 3, 3, 1992, pp. 301-337.
179. A.K. Jain and S. Bhattacharjee, "Text Segmentation for Automatic Document Processing", *Machine Vision and Applications*, 5, 3, pp. 169-184, 1992. Reprinted in *Document Image Analysis*, R. Kasturi and L. O'Gorman (eds.), IEEE Computer Society Press, 1994.
180. A.K. Jain and S. Bhattacharjee, "Address Block Location on Envelopes Using Gabor Filters", *Pattern Recognition*, 25, 12, pp. 1459-1477, 1992.

181. N.S. Raja and A.K. Jain, "Recognizing Geons from Superquadrics Fitted to Range Data", *Image and Vision Computing*, 10, 3, pp. 179-190, 1992.
182. S.W. Chen and A.K. Jain, "Multi View and Multiple Matching Techniques for 3D Object Recognition", *Computer Vision, Graphics and Image Processing: Image Understanding*, pp. 121-130, 1993.
183. P. Flynn and A.K. Jain, "3D Object Recognition Using Invariant Feature Indexing of Interpretation Tables", *Computer Vision, Graphic and Image Processing*, 55, 2, pp. 119-129, March 1992.
184. A.K. Jain and M.D. Ramaswami, "Rule Based 3D Object Recognition from Range Images", *JITEE*, 1992.
185. T. Newman and A.K. Jain, "Range Intensity Histogram for Segmenting LADAR Images", *Pattern Recognition Letters*, 13, 1, pp. 41-56, Jan. 1992.
186. P. Flynn and A.K. Jain, "BONSAI: 3D Object Recognition Using Constrained Search", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 13, 10, pp. 1066-1075, 1991.
187. J. Mao and A.K. Jain, "Texture Classification and Segmentation Using Multiresolution Simultaneous Autoregressive Models", *Pattern Recognition*, 25, 2, pp. 173-188, 1992. This paper won Honorable Mention in the Best Paper Award contest of the Pattern Recognition Society, 1992.
188. A.K. Jain and M.-P. Dubuisson, "Segmentation of X ray and C scan Images of Fiber Reinforced Composite Materials", *Pattern Recognition*, Vol. 25, No. 3, pp. 257-270, 1992.
189. A.K. Jain and F. Farrokhnia, "Unsupervised Texture Segmentation Using Gabor Filters", *Pattern Recognition*, 24, 12, pp. 1167-1186, 1991. This paper received the Best Paper Award for 1991 from the Pattern Recognition Society.
190. S.W. Chen and A.K. Jain, "Object Extraction from Laser Radar Imagery", *Pattern Recognition*, 24, 6, pp. 587-600, 1991.
191. J. Ton, J. Sticklen and A.K. Jain, "Knowledge based Segmentation of Landsat Images", *IEEE Transactions on Geoscience and Remote Sensing*, 29, 2, pp. 222-232, 1991.
192. S. Raudys and A.K. Jain, "Small Sample Size Effects in Statistical Pattern Recognition: Recommendations for Practitioners", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 13, 3, pp. 252-264, 1991.
193. P. Flynn and A.K. Jain, "CAD Based Computer Vision: From CAD Models to Relational Graphs", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 13, 2, pp. 114-132, 1991. Reprinted in *Computer Vision: Advances and Applications*, R. Kasturi and R. Jain (eds.), IEEE Computer Society Press, pp. 228-247, 1991. Reprinted in *Selected Papers on Model-Based Object Recognition*, H. Nasr (ed.) SPIE, Vol. MS72 (Milestone Series) SPIE Press, 1993.
194. M. Tuceryan and A.K. Jain, "Texture Segmentation with Voronoi Polygons", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 12, 2, pp. 211-216, 1990.
195. P.J. Flynn, T. Taxt and A.K. Jain, "Segmentation of Document Images", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 11, 12, pp. 1322-1329, 1989.
196. J. Ton and A.K. Jain, "Registering Landsat Images Using Point Pattern Matching", *IEEE Transactions on Geoscience and Remote Sensing*, 27, 5, pp. 642-651, 1989.
197. R. Dubes and A.K. Jain, "Random Field Models in Image Analysis", *Journal of Applied Statistics*, 6, 2, pp. 131-164, 1989. Reprinted in *Advances in Applied Statistics*, K.V. Mardia and G.K. Kanji (eds.), Carfax Publishing Co., 1993.
198. R. Jain and A.K. Jain, "Report on Range Image Understanding Workshop", *Machine Vision and Applications*, pp. 45-60, 1989.

199. A.K. Jain and R. Hoffman, "Evidence based Recognition of 3D objects", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 10, 6, pp. 783 802, Nov. 1988.
200. S. Smith and A.K. Jain, "A Test to Determine the Multivariate Normality of a Data Set", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 10, 5, pp. 757 761, Sept. 1988.
201. J. Ton, W.R. Enslin, W.D. Hudson and A.K. Jain, "Automatic Road Identification and Labeling in LANDSAT 4 TM Images", *Photogrammetria*, 4, 3, 257 276, 1989.
202. A.K. Jain, C.C. Chen and R.C. Dubes, "Bootstrap Techniques for Error Estimation", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 9, 5, pp. 628 633, 1987.
203. A.K. Jain and J.V. Moreau, "Bootstrap Technique in Cluster Analysis", *Pattern Recognition*, 20, 5, pp. 547 568, 1987. This paper received the Best Paper Award for 1987 from the Pattern Recognition Society.
204. R. Hoffman and A.K. Jain, "Segmentation and Classification of Range Images", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 9, 5, pp. 608 620, 1987.
205. R. Hoffman and A.K. Jain, "Sparse Decompositions for Exploratory Pattern Analysis", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 9, 4, pp. 551 560, 1987.
206. J. Coggins and A.K. Jain, "A Spatial Filtering Approach to Texture Analysis", *Pattern Recognition Letters*, 3, pp. 195 203, 1985.
207. Z. You and A.K. Jain, "Performance Evaluation of Shape Matching via Chord Length Distribution", *Computer Vision, Graphics and Image Processing* 28, pp. 185 198, 1984. Reprinted in Digital Image Processing and Analysis: Volume 2 Digital Image Analysis, R. Chellappa and A. A. Sawchuk (eds.), IEEE Computer Society Press, pp. 129 142, 1986.
208. L. Ni and A.K. Jain, "A VLSI Systolic Architecture for Pattern Clustering", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 7, 1, pp. 80 89, 1985.
209. S. Smith and A.K. Jain, "Testing for Uniformity in Multidimensional Data", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 6, 1, pp. 73 81, 1984.
210. R. Hoffman and A.K. Jain, "A Test of Randomness Based on Minimal Spanning Tree", *Pattern Recognition Letters*, 1, pp. 175 180, 1983.
211. S. Smith and A.K. Jain, "Chord Distributions for Shape Matching", *Computer Graphics and Image Processing*, 20, pp. 259 271, 1982.
212. G. Cross and A.K. Jain, "Markov Random Field Texture Models", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 5, pp. 25 39, 1982. Reprinted in Digital Image Processing and Analysis: Volume I Digital Image Processing, R. Chellappa and A. A. Sawchuk (eds.), IEEE Computer Society Press, pp. 149 163, 1985. Reprinted in Computer Vision: Advances & Applications, R. Kasturi and R. Jain (eds.), IEEE Computer Society Press, pp. 61 75, 1991.
213. L. Johnson and A.K. Jain, "An Efficient 2 Dim FFT Algorithm", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 3, pp. 698 701, 1981.
214. G. Biswas, R. Dubes and A.K. Jain, "Evaluation of Projection Algorithms", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 3, pp. 702 708, 1981.
215. E. Backer and A.K. Jain, "A Clustering Performance Measure Based on Fuzzy Set Decomposition", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 3, pp. 66 75, 1981. Reprinted in Fuzzy Models for Pattern Recognition, J.C. Bezdek and S. Pal (eds.), IEEE Press, 1992.
216. A.K. Jain, S. Smith and E. Backer, "Segmentation of Muscle Cell Pictures", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2, pp. 232 242, 1980.
217. A.K. Jain and B. Chandrasekaran, "On Balancing Decision Functions", *Journal of Cybernetics and Information Science*, 2, pp. 12 15, 1979.

218. R. Dubes and A.K. Jain, "Validity Studies in Clustering Methodologies", *Pattern Recognition*, 11, pp. 235 254, 1979. This paper won Honorable Mention in the Best Paper Award Contest of the Pattern Recognition Society, 1979.
219. K. Pettis, T. Bailey, A.K. Jain and R.C. Dubes, "An Intrinsic Dimensionality Estimator from Near Neighbor Information", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 1, pp. 25 37, 1979.
220. S. Shaffer, R.C. Dubes and A.K. Jain, "Single Link Characteristics of a Mode Seeking Clustering Algorithm", *Pattern Recognition*, 11, pp. 65 70, 1978.
221. A.K. Jain and W. Waller, "On the Monotonicity of the Performance of Bayesian Classifiers", *IEEE Transactions on Information Theory*, IT 24, pp. 392 394, 1978.
222. A.K. Jain and W. Waller, "On the Optimal Number of Features in the Classification of Multivariate Gaussian Data", *Pattern Recognition*, 10, pp. 365 374, 1978.
223. T. Bailey and A.K. Jain, "A Note on Distance Weighted k Nearest Neighbor Rules", *IEEE Transactions on Systems, Man, and Cybernetics*, SMC 8, pp. 311 313, 1978.
224. A.K. Jain and R.C. Dubes, "Feature Definition in Pattern Recognition with Small Sample Size", *Pattern Recognition*, 10, pp. 84 97, 1978.
225. R. Dubes and A.K. Jain, "Clustering Techniques: The User's Dilemma", *Pattern Recognition*, 8, pp. 247 260, 1976. This paper won Honorable Mention in the Best Paper Award Contest of the Pattern Recognition Society, 1976.
226. A.K. Jain, "On an Estimate of the Bhattacharyya Distance", *IEEE Transactions on Systems, Man, and Cybernetics*, SMC 6, pp. 763 766, 1976.
227. B. Chandrasekaran and A.K. Jain, "Independence, Measurement Complexity and Classification Performance", *IEEE Transactions on Systems, Man, and Cybernetics*, SMC 5, pp. 240 244, 1975. Reprinted in *Machine Recognition of Patterns*, A.K. Agarwala (ed.), IEEE Press, pp. 242 246, 1977.
228. B. Chandrasekaran and A.K. Jain, "Quantization Complexity and Independent Measurements", *IEEE Transactions on Computers*, C 23, pp. 102 106, 1974.
229. R.B. McGhee and A.K. Jain, "Some Properties of Regularly Realizable Gait Matrices", *Mathematical Biosciences*, 13, pp. 179 193, 1972. Reprinted in *Selections in Natural Computations*, Whitman Richards (ed.), MIT Press, 1988.

CONFERENCE PROCEEDINGS

1. K. Niinuma, H. Han, and A. K. Jain, "Automatic Multi-view Face Recognition via 3D Model Based Pose Regularization", BTAS, Washington, D.C., Sept. 29-Oct. 2, 2013.
2. L. Best-Rowden, B. Klare, J. Klontz, and A. K. Jain, "Video-to-Video Face Matching: Establishing a Baseline for Unconstrained Face Recognition", BTAS, Washington, D.C., Sept. 29-Oct. 2, 2013.
3. J. Klontz, B. Klare, S. Klum, E. Taborsky, M. Burge, and A. K. Jain, "Open Source Biometric Recognition", BTAS, Washington, D.C., Sept. 29-Oct. 2, 2013.
4. S. Yoon, K. Cao, E. Liu, and A. K. Jain, "LFIQ: Latent Fingerprint Image Quality", BTAS, Washington, D.C., Sept. 29-Oct. 2, 2013.
5. A. A. Paulino, E. Liu, K. Cao, and A. K. Jain, "Latent Fingerprint Indexing: Fusion of Level 1 and Level 2 Features", BTAS, Washington, D.C., Sept. 29-Oct. 2, 2013.
6. H. P. Silva, A. Loureno, A. Fred, and A. K. Jain, "Finger ECG Signal for User Authentication: Usability and Performance", BTAS, Washington, D.C., Sept. 29-Oct. 2, 2013.

7. Q. Zhao, Y. Zhang, A. K. Jain, N. G. Paulter, and M. Taylor, "A Generative Model for Fingerprint Minutiae", ICB, Madrid, Spain, June 4-7, 2013.
8. H. Han, C. Otto, and A. K. Jain, "Age Estimation from Face Images: Human vs. Machine Performance", ICB, Madrid, Spain, June 4-7, 2013.
9. H. Han and A. K. Jain, "Tattoo Based Identification: Sketch to Image Matching", ICB, Madrid, Spain, June 4-7, 2013.
10. E. Liu, S. Arora, K. Cao, and A. K. Jain, "A Feedback Paradigm for Latent Fingerprint Matching", ICB, Madrid, Spain, June 4-7, 2013.
11. S. Klum, H. Han, and A. K. Jain, "Sketch Based Face Recognition: Forensic vs. Composite Sketches", ICB, Madrid, Spain, June 4-7, 2013.
12. S. Yoon and A. K. Jain, "Is There Fingerprint Pattern in the Image?", ICB, Madrid, Spain, June 4-7, 2013.
13. R. Chitta, R. Jin, and A. K. Jain, "Efficient Kernel Clustering using Random Fourier Features", ICDM, Brussels, Belgium, Dec. 10-13, 2012.
14. J. Yi, T. Yang, R. Jin, and A. K. Jain, "Robust Ensemble Clustering by Matrix Completion", ICDM, Brussels, Belgium, Dec. 10-13, 2012.
15. J. Yi, R. Jin, A. K. Jain, S. Jain, and T. Yang, "Semi-Crowdsourced Clustering: Generalizing Crowd Labeling by Robust Distance Metric Learning", NIPS, Lake Tahoe, NE, Dec. 3-6, 2012.
16. S. Yoon, E. Liu, and A. K. Jain, "On Latent Fingerprint Image Quality", ICPR IWCF Workshop, Tsukuba, Japan, Nov. 11, 2012.
17. H. Maeng, S. Liao, D. Kang, S.-W. Lee, and A. K. Jain, "Nighttime Face Recognition at Long Distance: Cross-distance and Cross-spectral Matching", ACCV, Daejeon, Korea, Nov. 5-9, 2012.
18. C. Otto, H. Han, and A. K. Jain, "How Does Aging Affect Facial Components", ECCV WIAF Workshop, Florence, Italy, Oct. 7-13, 2012.
19. K. Nguyen, A. Sarkar, and A. K. Jain, "Structure and Context in Prostatic Gland Segmentation and Classification", In: N. Ayache et al. (eds.) MICCAI 2012, LNCS, Vol. 7510, pp. 115-123, Springer, Heidelberg, 2012.
20. B. Klare and A. K. Jain, "Face Recognition: Impostor-based Measures of Uniqueness and Quality", BTAS, Washington, D.C., Sept. 23-26, 2012.
21. H. Han and A. K. Jain, "3D Face Texture Modeling from Uncalibrated Frontal and Profile Images", BTAS, Washington, D.C., Sept. 23-26, 2012.
22. Q. Zhao, A. K. Jain, N. G. Paulter, and M. Taylor, "Fingerprint Image Synthesis based on Statistical Feature Models", BTAS, Washington, D.C., Sept. 23-26, 2012.
23. H.S. Choi, M. Boaventura, I. A. G. Boaventura, and A. K. Jain, "Automatic Segmentation of Latent Fingerprints", BTAS, Washington, D.C., Sept. 23-26, 2012.
24. S. Arora, M. Vatsa, R. Singh, and A. K. Jain, "On Iris Camera Interoperability", BTAS, Washington, D.C., Sept. 23-26, 2012.
25. J. Yi, R. Jin, A. K. Jain, and S. Jain, "Crowdclustering with Sparse Pairwise Labels: A Matrix Completion Approach", HCOMP, Toronto, Canada, July 22-23, 2012.
26. Y. Zhong, Y. Deng, and A. K. Jain, "Keystroke Dynamics for User Authentication", CVPR Workshop on Biometrics, Providence, RI, June 16-21, 2012.
27. B. Klare, S. S. Bucak, T. Akgul, and A. K. Jain, "Towards Automated Caricature Recognition", ICB, New Delhi, India, March 29-April 1, 2012.
28. S. Yoon, Q. Zhao, and A. K. Jain, "On Matching Altered Fingerprints", ICB, New Delhi, India, March 29-April 1, 2012.

29. S. S. Arora, M. Vatsa, R. Singh, and A. K. Jain, "Iris Recognition Under Alcohol Influence: A Preliminary Study", ICB, New Delhi, India, March 29-April 1, 2012.
30. Z. Lei, C. Zhou, D. Yi, A. K. Jain, and S. Z. Li, "An Improved Coupled Spectral Regression for Heterogeneous Face Recognition", ICB, New Delhi, India, March 29-April 1, 2012.
31. W. Tong, J.-E. Lee, R. Jin, and A. K. Jain, "Gang and Moniker Identification by Graffiti Matching", International ACM Workshop on Multimedia in Forensics and Intelligence (MiFor), Scottsdale, AZ, Nov. 28 - Dec. 1, 2011.
32. Q. Zhao, A. K. Jain, and G. Abramovich, "3D to 2D Fingerprints: Unrolling and Distortion Correction", IJCB, Washington, DC, Oct. 11-13, 2011.
33. H.-S. Choi, A. Nagar, and A. K. Jain, "On the Evidential Value of Fingerprints", IJCB, Washington, DC, Oct. 11-13, 2011.
34. S. Yoon, J. Feng, and A. K. Jain, "Latent Fingerprint Enhancement via Robust Orientation Field Estimation", IJCB, Washington, DC, Oct. 11-13, 2011.
35. A. A. Paulino, J. Feng, and A. K. Jain, "Latent Fingerprint Matching using Descriptor-Based Hough Transform", IJCB, Washington, DC, Oct. 11-13, 2011.
36. R. P. Lemes, O. R. P. Bellon, L. Silva, and A. K. Jain, "Biometric Recognition of Newborns: Identification using Palmprints", IJCB, Washington, DC, Oct. 11-13, 2011.
37. S. Liao and A. K. Jain, "Partial Face Recognition: an Alignment Free Approach", IJCB, Washington, DC, Oct. 11-13, 2011.
38. B. Klare and A. K. Jain, "Face Recognition Across Time Lapse: On Learning Feature Subspaces", IJCB, Washington, DC, Oct. 11-13, 2011.
39. B. Klare, A. A. Paulino, and A. K. Jain, "Analysis of Facial Features in Identical Twins", IJCB, Washington, DC, Oct. 11-13, 2011.
40. H. Maeng, H.-C. Choi, U. Park, S.-W. Lee, and A. K. Jain, "NFRAD: Near-Infrared Face Recognition at a Distance", IJCB, Washington, DC, Oct. 11-13, 2011.
41. K. Nguyen, A. K. Jain, and B. Sabata, "Prostate Cancer Detection: Fusion of Cytological and Textural Features", MICCAI - Workshop on Histopathology Image Analysis, Toronto, Canada, Sep. 18-22, 2011.
42. R. Chitta, R. Jin, T. C. Havens, and A. K. Jain, "Approximate Kernel k-means: solution to Large Scale Kernel Clustering", KDD, San Diego, CA, August 21-24, 2011.
43. S. S. Bucak, R. Jin, and A. K. Jain, "Multi-label Learning with Incomplete Class Assignments", CVPR, Colorado Springs, June 21-25, 2011.
44. W. Tong, F. Li, T. Yang, R. Jin, A. K. Jain, "A Kernel Density Based Approach for Large Scale Image Retrieval", ACM International Conference on Multimedia Retrieval, Trento, Italy, April 17-20, 2011.
45. T. C. Havens, R. Chitta, A. K. Jain, and R. Jin, "Speedup of Fuzzy and Possibilistic Kernel c-Means for Large-Scale Clustering", Proc. IEEE Int. Conf. Fuzzy Systems, Taipei, Taiwan, June 27-30, 2011.
46. A. K. Jain, B. Klare, and U. Park, "Face Recognition: Some Challenges in Forensics", 9th IEEE International Conference on Automatic Face and Gesture Recognition (FG), Santa Barbara, CA, March 21-25, 2011.
47. S. Bucak, R. Jin, A.K. Jain, "Multi-label Multiple Kernel Learning by Stochastic Approximation: Application to Visual Object Recognition," 24th Annual Neural Information Processing Systems Conference (NIPS 2010), Vancouver, B.C., Canada, December 6-9, 2010.
48. B. Klare and A. K. Jain, "On a Taxonomy of Facial Features," Proc. IEEE Conf. on Biometrics: Theory, Applications and Systems (BTAS), Sept. 27-29, 2010. *Received the Best Paper Award.*

49. H.-C. Choi, U. Park, and A. K. Jain, "PTZ Camera Assisted Face Acquisition, Tracking & Recognition," Proc. IEEE Conf. on Biometrics: Theory, Applications and Systems (BTAS), Sept. 27-29, 2010.
50. A. Paulino, A. K. Jain and J. Feng, "Latent Fingerprint Matching: Fusion of Manually Marked and Derived Minutiae", SIBGRAPI, Gramado, Brazil, Aug. 31-Sept. 3, 2010. *Received the Best Paper Award.*
51. A. Lourenco, A. L. N. Fred and A. K. Jain, "On the Scalability of Evidence Accumulation Clustering", ICPR, Istanbul Turkey, August 23-26, 2010.
52. P. Mallapragada, R. Jin and A. K. Jain, "Non-parametric Mixture Models for Clustering", SSSPR, Izmir Turkey, August 18-20, 2010.
53. T. Yang, R. Jin, A. K. Jain, Y. Zhou, W. Tong, "Unsupervised Transfer Classification: Application to Text Categorization", KDD, Washington, DC, July 25-28, 2010.
54. T. Yang, R. Jin, A. K. Jain, "Learning from Noisy Side Information by Generalized Maximum Entropy Model", ICML, Haifa Israel, June 21-24, 2010.
55. P. Mallapragada, R. Jin and A. K. Jain, "Online Visual Vocabulary Pruning Using Pairwise Constraints", CVPR, San Francisco, June 13-18, 2010.
56. Q. Zhao and A. K. Jain, "On the Utility of Extended Fingerprint Features: A Study on Pores", CVPR, Workshop on Biometrics, San Francisco, June 18, 2010.
57. B. Klare and A.K. Jain, "Heterogeneous Face Recognition: Matching NIR to Visible Light Images", ICPR, Istanbul, Turkey, August 23-26, 2010.
58. K. Nguyen, A.K. Jain and R. Allen, "Automated Gland Segmentation and Classification for Gleason Grading of Prostate Tissue Images", ICPR, Istanbul Turkey, August 23-26, 2010. *Received the Best Paper Award.*
59. J-E. Lee, R. Jin and A.K. Jain, "Unsupervised Ensemble Ranking: Application to Large-Scale Image Retrieval", ICPR, Istanbul Turkey, August 23-26, 2010.
60. Y. Lee, U. Park, and A. K. Jain, "PILL-ID Matching and Retrieval of Drug Pill Imprint Images", ICPR, Istanbul Turkey, August 23-26, 2010. *Received the Best Paper Award.*
61. B. Klare, P. Mallapragada, A. K. Jain and K. Davis, "Clustering Face Carving: Application to Devatas of Angkor Wat", ICPR, Istanbul Turkey, August 23-26, 2010.
62. J. feng, A. K. Jain and A. Ross, "Detecting Altered Fingerprints", ICPR, Istanbul Turkey, August 23-26, 2010.
63. A. Nagar, K. Nandakumar, A. K. Jain, "Biometric Template Transformation: A Security Analysis", in Proc. of SPIE, Electronic Imaging, Media Forensics and Security XII, San Jose, Jan. 2010.
64. S. Yoon, J. Feng, and A. K. Jain, "On Latent Fingerprint Enhancement", in Proc. of SPIE Defense, Security, and Sensing: Biometrics Technology for Human Identification Conference, Orlando, April 2010.
65. K. Niinuma, A. K. Jain, "Continuous User Authentication Using Temporal Information", in Proc. of SPIE Defense, Security, and Sensing: Biometrics Technology for Human Identification Conference, Orlando, April 2010.
66. B. Klare and A. K. Jain, "Sketch to Photo Matching: A Feature-based Approach", in Proc. of SPIE Defense, Security, and Sensing: Biometric Technology for Human Identification, Orlando, April 2010.
67. Z. Sun, A. Paulino, J. Feng, Z. Chai, T. Tan, A.K. Jain, "A Study of Multibiometric Traits of Identical Twins", in Proc. of SPIE Defense, Security, and Sensing: Biometric Technology for Human Identification, Orlando, April 2010.

68. A. Nagar and A. K. Jain, "On the Security of Non-Invertible Fingerprint Template Transforms", in Proc. of IEEE Workshop on Information Forensics & Security (WIFS), London, Dec. 2009.
69. A. K. Jain, J.-E. Lee, R. Jin, and N. Gregg, "Content Based Image Retrieval: An Application to Tattoo Images", IEEE ICIP, Nov., 2009.
70. A. K. Jain, J.-E. Lee, and R. Jin, "Graffiti-ID: Matching and Retrieval of Graffiti Images", ACM MM Workshop, MiFor'09, Oct., 2009.
71. Fengjie Li, Wei Tong, Rong Jin, and Anil K. Jain and Jung-Eun Lee, "An Efficient Key Point Quantization Algorithm for Large Scale Image Retrieval", ACM MM Workshop, LS-MMRM, Oct., 2009.
72. A. K. Jain and U. Park, "Facial Marks: Soft Biometric For Face Recognition", IEEE ICIP, Nov., 2009.
73. K. Nandakumar, A. Ross, and A. K. Jain, "Biometric Fusion: Does Modeling Correlation Really Matter?", in Proc. of Int'l Conf. on Biometrics: Theory, Applications and Systems, Washington DC, September 2009. *Received the Best Paper Award.*
74. K. Nandakumar, A. K. Jain and A. Ross, "Fusion in Multibiometric Identification Systems: What about the Missing Data?" in Proc. of International conference on Biometrics (ICB), June, 2009.
75. J. Feng, S. Yoon, and A. K. Jain, "Latent Fingerprint Matching: Fusion of Rolled and Plain Fingerprints", in Proc. of International conference on Biometrics (ICB), June, 2009.
76. J. Feng, and A. K. Jain, "FM Model Based Fingerprint Reconstruction from Minutiae Template", in Proc. of International conference on Biometrics (ICB), June, 2009.
77. Y. Chen and A. K. Jain, "Beyond Minutiae: A Fingerprint Individuality Model with Pattern, Ridge and Pore Features", in Proc. of International conference on Biometrics (ICB), June, 2009. *Received the Best Paper Award.*
78. A. L. N. Fred and A. K. Jain, "Cluster Validation Using a Probabilistic Attributed Graph", in Proc. of International Conference on Pattern Recognition (ICPR), Tampa, December, 2008.
79. P. K. Mallapragada, R. Jin and A. K. Jain, "Active Query Selection for Semi-Supervised Clustering", in Proc. of International Conference on Pattern Recognition (ICPR), Tampa, December, 2008.
80. J. Feng and A. K. Jain, "Filtering Large Fingerprint Database for Latent Matching", in Proc. of International Conference on Pattern Recognition (ICPR), Tampa, December, 2008.
81. A. Nagar, K. Nandakumar and A. K. Jain, "Securing Fingerprint Template: Fuzzy Vault with Minutiae Descriptors", in Proc. of International Conference on Pattern Recognition (ICPR), December, 2008. *Received the Best Paper Award.*
82. J.-E. Lee, A. K. Jain and R. Jin, "Scars, Marks and Tattoos (SMT): Soft Biometric for Suspect and Victim Identification", in Proc. Biometric Symposium, BCC, September, 2008. *Received the Best Paper Award.*
83. K. Nandakumar and A. K. Jain, "Multibiometric Template Security Using Fuzzy Vault", in BTAS'08, September 2008.
84. J.-E. Lee, R. Jin and A. K. Jain, "Rank-based Distance Metric Learning: An Application to Image Retrieval", in Proc. of CVPR, Alaska, June 2008.
85. A. K. Jain, J. Feng, A. Nagar and K. Nandakumar, "On Matching Latent Fingerprints", IEEE Computer Society Workshop on Biometrics, CVPR, Anchorage, Alaska, June 2008.
86. Y.C. Feng, P.C. Yuen and A.K. Jain, "A Hybrid Approach for Face Template Protection", in Proc. of SPIE Conference of Biometric Technology for Human Identification V, Vol. 6944, Orlando, March 2008.

87. U. Park, S. Pankanti and A.K. Jain, "Fingerprint Verification Using SIFT Features", in Proc. of SPIE Conference of Biometric Technology for Human Identification V, Vol. 6944, Orlando, March 2008.
88. A. K. Jain, J.-E. Lee and R. Jin, "Tattoo-ID: Automatic Tattoo Image Retrieval for Suspect & Victim Identification", Proc. of Pacific-Rim Conference on Multimedia (PCM), pp. 256-265, Hong Kong, December 2007.
89. R. K. Rowe, U. Uludag, M. Demirkus, S. Parthasaradhi and A. K. Jain, "A Multispectral Whole-hand Biometric Authentication System", Proc. of Biometric Symposium, BCC, Baltimore, September 2007.
90. Y. Chen and A. K. Jain, "Dots and Incipients: Extended Features for Partial Fingerprint Matching", Proc. of Biometric Symposium, BCC, Baltimore, September, 2007. *Received the Best Paper Award.*
91. H. Gamboa, A. L. N. Fred and A. K. Jain, "Webbiometrics: User Verification Via Web Interaction", Proc. of Biometric Symposium, BCC, Baltimore, September 2007.
92. Y. Liu, R. Jin and A. K. Jain, "BoostCluster: Boosting Clustering by Pairwise Constraints", in 13th International Conference on Knowledge Discovery and Data Mining (KDD), pp. 450-459, San Jose, USA, August 2007.
93. K. Nandakumar, A. Nagar and A.K. Jain, "Hardening Fingerprint-based Fuzzy Vault Using Password", in Proc. of 2nd International Conference on Biometrics (ICB), pp. 927-937, Seoul, South Korea, August 2007.
94. U. Park and A.K. Jain, "3D Model-Based Face Recognition in Video", in Proc. of 2nd International Conference on Biometrics (ICB), Seoul, South Korea, pp. 1085-1094, August, 2007.
95. U. Park, A.K. Jain and A. Ross, "Face Recognition in Video: Adaptive Fusion of Multiple Matchers", IEEE Computer Society Workshop on Biometrics, CVPR, Minneapolis, USA, June 2007.
96. K. Nandakumar, Y. Chen, S.C. Dass and A.K. Jain, "Quality-based Score Level Fusion in Multibiometric Systems", in Proc. of International Conference on Pattern Recognition (ICPR), Vol. 4, pp. 473-476, Hong Kong, August 2006.
97. Y. Chen, M. Demirkus and A.K. Jain, "Pores and Ridges: Fingerprint Matching Using Level 3 Features", in Proc. of International Conference on Pattern Recognition (ICPR), Vol. 4, pp. 477-480, Hong Kong, August 2006.
98. C. Ryu, H. Kim and A.K. Jain, "Template Adaptation based Fingerprint Verification", in Proc. of International Conference on Pattern Recognition (ICPR), Vol. 4, pp. 582-585, Hong Kong, August, 2006.
99. Y. Zhu, S.C. Dass and A.K. Jain, "Compound Stochastic Models for Fingerprint Individuality", in Proc. of International Conference on Pattern Recognition (ICPR), Vol. 3, pp. 532-535, Hong Kong, August, 2006.
100. U. Park and A.K. Jain, "ViSE: Visual Search Engine Using Multiple Networked Cameras", in Proc. of International Conference on Pattern Recognition (ICPR), Vol. 3, pp. 1204-1207, Hong Kong, August, 2006.
101. A. Fred and A.K. Jain, "Learning Pairwise Similarity for Data Clustering", in Proc. of International Conference on Pattern Recognition (ICPR), Vol. 1, pp. 925 - 928, Hong Kong, August, 2006. *Received the Best Paper Award.*
102. A. K. Jain, P. K. Mallapragada and M. Law, "Bayesian Feedback in Data Clustering", in Proc. of International Conference on Pattern Recognition (ICPR), Vol. 3, pp. 374-378, Hong Kong, August, 2006.
103. U. Uludag and A.K. Jain, "Securing fingerprint template: fuzzy vault with helper data", in Proc. IEEE Workshop on Privacy Research in Vision, pp. 163, New York, NY, June, 2006.

104. X. Lu and A. K. Jain, "Deformation Modeling for Robust 3D Face Matching", Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR2006), Vol. 2, pp. 1377-1383, New York, June, 2006.
105. U. Park and A.K. Jain, "3D Face Reconstruction from Stereo Video", Proc. First International Workshop on Video Processing for Security (VP4S-06) in Third Canadian Conference on Computer and Robot Vision (CRV'06), Quebec City, Canada, June, 2006.
106. X. Lu and A. K. Jain, "Automatic Feature Extraction for Multiview 3D Face Recognition", Proc. 7th IEEE International Conference on Automatic Face and Gesture Recognition (FG2006), pp. 585-590, Southampton, UK, Apr. 2006.
107. X. Lu, H. Chen, and A. K. Jain, "Multimodal Facial Gender and Ethnicity Identification", Proc. of IAPR Int'l Conf. on Biometrics, pp. 554-561, Hong Kong, Jan., 2006.
108. J. Fierrez-Aguilar, Y. Chen, J. Ortega-Garcia and A. K. Jain, "Incorporating image quality in multi-algorithm fingerprint verification", Proc. IAPR Int'l. Conf. on Biometrics, pp.213-220, Hong Kong, Jan., 2006. Received the Best Student Paper Award.
109. Y. Chen, S. C. Dass and A. K. Jain, "Localized Iris Image Quality Using 2-D Wavelets", Proc. IAPR Intl. Conf. on Biometrics, pp. 373-381, Hong Kong, Jan., 2006.
110. J. Fierrez-Aguilar, S. Krawczyk, J. Ortega-Garcia and A. K. Jain, "Fusion of local and regional approaches for on-line signature verification", Proc. In'tl. Workshop on Biometric Recognition Systems, pp. 188-196, Beijing, China, Oct., 2005.
111. A. N. Marana and A. K. Jain, "Ridge-Based Fingerprint Matching Using Hough Transform", Proc. of Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI), pp. 112-119, Natal, Brazil, Oct., 2005.
112. S. C. Dass, Y. Zhu and A. K. Jain, "Statistical Models for Assessing the Individuality of Fingerprints", Proc. Fourth IEEE workshop on Automatic Identification Advanced Technologies, pp. 3-9, Buffalo, NY, Oct., 2005.
113. M.E. Farmer, S.B. Farmer and A.K. Jain, "Non-parametric Feature Selection for Image-based Airbag Suppression", Proc. Applied Statistics Conf., Slovenia, Sept. 18-21, 2005.
114. U. Uludag, S. Pankanti and A.K. Jain, "Fuzzy vault for fingerprints", Proc. 5th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), pp. 310-319, Rye Brook, NY, July, 2005. Received the Best Student Paper Award.
115. S.C. Dass, K. Nandakumar and A.K. Jain, "A Principled Approach to Score Level Fusion in Multimodal Biometric Systems", Proc. 5th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), pp. 1049-1058, Rye Brook, NY, July, 2005.
116. Y. Chen, S.C. Dass, and A.K. Jain, "Fingerprint Quality Indices for Predicting Authentication Performance", Proc. 5th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication, pp. 160-170, Rye Brook, NY, July, 2005.
117. S. Krawczyk and A.K. Jain, "Securing Electronic Medical Records using Biometric Authentication", Proc. 5th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), pp. 1110-1119, Rye Brook, NY, July, 2005.
118. T. Lange, M. H. Law, A. K. Jain and J. Buhmann, "Learning With Constrained and Unlabelled Data", Proc. of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition, vol. 1, pp. 730-737, San Diego, CA, June 2005.
119. D. Colbry, G. Stockman and A. K. Jain, "Detection of Anchor Points for 3D Face Verification", Proc. IEEE Workshop on Advanced 3D Imaging for Safety and Security A3DISS, San Diego, CA, June 25, 2005.
120. U. Park, H. Chen and A.K. Jain, "3D Model-assisted Face Recognition in Video", Proc. of 2nd Workshop on Face Processing in Video, in conjunction with AI/GI/CRV'05, pp. 322-329, Victoria, Canada, May, 2005.

121. A.K. Jain and H. Chen, "Registration of dental atlas to radiographs for human identification", Proc. SPIE Conference of Biometric Technology for Human Identification II, Vol. 5779, pp. 292-298, Orlando, Florida, Mar-Apr, 2005.
122. A. Ross, J. Shah and A. K. Jain, "Towards Reconstructing Fingerprints from Minutiae Points", Proc. SPIE Conference on Biometric Technology for Human Identification II, Vol. 5779, pp. 68-80, Orlando, Florida, Mar-Apr, 2005.
123. X. Lu, A.K. Jain and S.C. Dass, "3D Facial Expression Modeling for Recognition", Proc. SPIE Conference on Biometric Technology for Human Identification II, Vol. 5779, pp. 113-121, Orlando, Florida, Mar-Apr, 2005.
124. H. Chen and A.K. Jain, "Dental Biometrics: Alignment and Matching of Dental Radiographs", Proc. WACV (Workshop on Applications of Computer Vision), pp. 316-321, Breckenridge, Colorado, Jan. 2005.
125. Y. Chen, S. Dass, A. Ross and A.K. Jain, "Fingerprint Deformation Models Using Minutiae Locations and Orientations", Proc. WACV (Workshop on Applications of Computer Vision), pp. 150-155, Breckenridge, Colorado, Jan. 2005.
126. X. Lu and A.K. Jain, "Integrating range and texture information for 3D face recognition", Proc. WACV (Workshop on Applications of Computer Vision), pp. 156-163, Breckenridge, Colorado, Jan. 2005.
127. X. Lu and A.K. Jain, "Deformation Analysis for 3D Face Matching", Proc. WACV (Workshop on Applications of Computer Vision), pp. 99-104, Breckenridge, Colorado, Jan. 2005.
128. A. Topchy, M.H. Law, A.K. Jain and A. Fred, "Analysis of Consensus Partition in Cluster Ensemble", Proc. Fourth IEEE International Conference on Data Mining, pp. 225-232, Brighton, UK, Nov. , 2004.
129. H. Chen and A.K. Jain, "Tooth Contour Extraction for Matching Dental Radiographs", Proc. ICPR 2004, vol. III, pp. 522-525, Cambridge, UK, Aug. 2004.
130. A.K. Jain, A. Topchy, M.H.C. Law and J.M. Buhmann, "Landscape of Clustering Algorithms", Proc. ICPR 2004, vol. I, pp. 260-263, Cambridge, UK, Aug. 2004.
131. A. Topchy, B. Minaei-Bidgoli, A.K. Jain and W.F. Punch, "Adaptive Clustering Ensembles", Proc. ICPR 2004, vol. I, pp. 272-275, Cambridge, UK, Aug. 2004.
132. X. Lu, D. Colbry and A.K. Jain, "Three-dimensional Model Based Face Recognition", Proc. ICPR 2004, vol. I, pp. 362-366, Cambridge, UK, Aug. 2004.
133. M.E. Farmer and A.K. Jain, "A Wrapper-based Approach to Image Segmentation and Classification", Proc. ICPR 2004, vol. II, pp. 106-109, Cambridge, UK, Aug. 2004.
134. M.E. Farmer, S. Bapna and A.K. Jain, "Large Scale Feature Selection Using Modified Random Mutation Hill Climbing", Proc. ICPR 2004, vol. II, pp. 287-290, Cambridge, UK, Aug. 2004.
135. A.M. Namboodiri and A.K. Jain, "Retrieval of On-line Hand-Drawn Sketches", Proc. ICPR 2004, vol. II, pp. 642-645, Cambridge, UK, Aug. 2004.
136. A.K. Jain, S. Pankanti, S. Prabhakar, L. Hong and A. Ross, "Biometrics: A Grand Challenge", Proc. ICPR 2004, vol. II, pp. 935-942, Cambridge, UK, Aug. 2004.
137. U. Uludag and A.K. Jain, "Fuzzy Fingerprint Vault", Proc. Workshop: Biometrics: Challenges Arising from Theory to Practice, pp. 13-16, Cambridge, UK, Aug. 2004.
138. G. Fahmy, D. Nassar, E. Haj-Said, H. Chen, O. Nomir, J. Zhou, R. Howell, H. H. Ammar, M. Abdel-Mottaleb and A. K. Jain, "Towards an Automated Dental Identification System (ADIS)", Proc. International Conference on Biometric Authentication (ICBA), pp. 789-796, Hong Kong, July 2004.
139. A.K. Jain, S.C. Dass and K. Nandakumar, "Soft Biometric Traits for Personal Recognition Systems", Proc. International Conference on Biometric Authentication (ICBA), pp. 731-738, Hong Kong, July 2004.

140. X. Lu, D. Colbry and A.K. Jain, "Matching 2.5D Scans for Face Recognition", Proc. International Conference on Biometric Authentication (ICBA), pp. 30-36, Hong Kong, July 2004.
141. X. Lu, R. Hsu, A. Jain, B. Kamgar-Parsi and B. Kamgar-Parsi, "Face Recognition with 3D Model-Based Synthesis", Proc. International Conference on Biometric Authentication (ICBA), pp. 139-146, Hong Kong, July 2004.
142. A. Ross, S. Dass and A.K. Jain, "Estimating Fingerprint Deformation", Proc. of International Conference on Biometric Authentication (ICBA), pp. 249-255, Hong Kong, July 2004.
143. D. Maio, D. Maltoni, R. Cappelli, J.L. Wayman and A.K. Jain, "FVC2004: Third Fingerprint Verification Competition", Proc. International Conference on Biometric Authentication (ICBA), pp. 1-7, Hong Kong, July 2004.
144. A.M. Namboodiri, S. Saini, X. Lu, and A.K. Jain, "Skilled Forgery Detection in On-line Signatures: A Multimodal Approach", Proc. International Conference on Biometric Authentication (ICBA), pp. 505-511, Hong Kong, July 2004.
145. A. Ross and A.K. Jain, "Biometric Sensor Interoperability: A Case Study in Fingerprints", Proc. of International ECCV Workshop on Biometric Authentication (BioAW), (Prague), LNCS vol. 3087, pp. 134-145, Springer Publishers, May 2004.
146. A.K. Jain, K. Nandakumar, X. Lu, and U. Park, "Integrating Faces, Fingerprints, and Soft Biometric Traits for User Recognition", Proceedings of Biometric Authentication Workshop, in conjunction with ECCV2004, LNCS 3087, pp. 259-269, Prague, May 2004.
147. A. Topchy, A.K. Jain and W. Punch, "A Mixture Model for Clustering Ensembles", Proc. SIAM International Conference on Data Mining (SDM04), Florida, April 22-24, 2004.
148. M.H. Law, N. Zhang and A.K. Jain, "Nonlinear Manifold Learning for Data Stream", Proc. SIAM International Conference on Data Mining (SDM04), pp. 33-44, Florida, April 22-24, 2004. Received the Best Student Paper Award.
149. A.K. Jain, S.C. Dass and K. Nandakumar, "Can Soft Biometric Traits Assist User Recognition?", Proc. SPIE Defense and Security Symposium, pp. 561-572, Orlando, FL, April 12-16, 2004.
150. X. Lu and A.K. Jain, "Ethnicity Identification from Face Images", Proc. SPIE Defense and Security Symposium, pp. 114-123, Orlando, FL, April 12-16, 2004.
151. U. Uludag and A.K. Jain, "Attacks on Biometric Systems: A Case Study in Fingerprints", Proc. SPIE-EI 2004, pp. 622-633, San Jose, CA, Jan. 18-22, 2004.
152. A.M. Namboodiri and A.K. Jain, "Watermarking Document Images for Authentication Using On-line Signature", Proc. SPIE-EI 2004, pp. 653-662, San Jose, CA, Jan. 18-22, 2004.
153. M. Indovina, U. Uludag, R. Snelick, A. Mink and A. Jain, "Multimodal Biometric Authentication Methods: A COTS Approach", Proc. MMUA 2003, Workshop on Multimodal User Authentication, Santa Barbara, CA, Dec. 11-12, 2003, pp. 99-106.
154. M.E. Farmer and A.K. Jain, "Integrated segmentation and classification for automotive airbag suppression", Proc. ICIP 2003 (IEEE International Conference on Image Processing), Sept. 2003.
155. A.K. Jain and A. Namboodiri, "Indexing and Retrieval of On-line Handwritten Documents", Proc. Seventh International Conference on Document Analysis and Recognition, Aug. 2003, Edinburgh, Scotland, pp. 655-659.
156. X. Lu, Y. Wang and A.K. Jain, "Combining Classifiers for Face Recognition", Proc. ICME 2003 (IEEE International Conference on Multimedia & Expo), Baltimore, MD, July 6-9, 2003, pp. 13-16.
157. U. Uludag and A.K. Jain, "Multimedia Content Protection via Biometrics-based Encryption", Proc. ICME 2003 (IEEE International Conference on Multimedia & Expo), Baltimore, MD, July 6-9, 2003, pp. 237-240.

158. A.L.N. Fred and A.K. Jain, "Robust Data Clustering", Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), Madison, Wisconsin, June 16-22, 2003.
159. M.E. Farmer and A.K. Jain, "Occupant Classification System for Automotive Airbag Suppression", Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), Madison, Wisconsin, June 16-22, 2003.
160. A. Kumar, D.C.M. Wong, H.C. Shen and A.K. Jain, "Personal Verification Using Palmprint and Hand Geometry Biometric", Proc. of 4th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), Guildford, UK, June 9-11, 2003.
161. Y. Wang, T. Tan and A.K. Jain, "Combining Face and Iris Biometrics for Identity Verification", Proc. of 4th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), Guildford, UK, June 9-11, 2003.
162. A.K. Jain, H. Chen and S. Minut, "Dental Biometrics: Human Identification Using Dental Radiographs", Proc. of 4th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), Guildford, UK, June 9-11, 2003.
163. A.K. Jain, U. Uludag and A. Ross, "Biometric Template Selection: A Case Study in Fingerprints", Proc. of 4th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), Guildford, UK, June 9-11, 2003.
164. B. Kamgar-Parsi, B. Kamgar-Parsi and A.K. Jain, "Synthetic Eyes", Proc. of 4th Int'l Conf on Audio- and Video-Based Person Authentication (AVBPA), Guildford, UK, June 9-11, 2003.
165. X. Lu and A.K. Jain, "Resampling for Face Recognition", Proc. of 4th Int'l Conf. on Audio- and Video-Based Biometric Person Authentication (AVBPA), Guildford, UK, June 9-11, 2003.
166. M. H. Law, M. Figueiredo, A. K. Jain. "Feature selection in mixture-based clustering", Proc. Advances in Neural Information Processing Systems 15 (NIPS), pp. 609-616, 2002.
167. R.L. Hsu and A.K. Jain, "Semantic Face Matching", Proc. IEEE International Conference Multimedia and Expo (ICME), Lausanne, Aug. 2002.
168. A. Ross and A.K. Jain, "Fingerprint Matching Using Feature Space Correlation", Proc. of ECCV Workshop on Biometric Authentication, Denmark, June 1, 2002.
169. A. K. Jain and A. Ross, "Fingerprint Mosaicking", Proc. of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Orlando, FL, May 13-17, 2002.
170. A.K. Jain and A. Ross "Learning Used-Specific Parameters in a Multibiometric System", Proc. of International Conference on Image Processing, Rochester, New York, Sept. 22-25, 2002.
171. A.K. Jain and U. Uludag, "Hiding Fingerprint Minutiae into Images", Proc. AutoID02, White Plains, NY, March 2002, pp. 97-102.
172. A. K. Jain, U. Uludag and R.L. Hsu, "Hiding a Face in a Fingerprint Image", Proc. ICPR, Quebec City, Aug. 2002, pp. 756-759.
173. M. Farmer, R. L. Hsu and A.K. Jain, "Interacting Multiple Model (IMM) Kalman Filters for Robust High Speed Human Motion Tracking", Proc. ICPR, Quebec City, Aug. 2002, pp. 20-23.
174. A. Ross, J. Reisman and A.K. Jain, "A Hybrid Fingerprint Matcher", Proc. ICPR, Quebec City, Aug. 2002, pp. 795-798.
175. S. Dass, X. Lu and A.K. Jain, "Face Detection and Synthesis using Markov Random Field Models", Proc. ICPR, Quebec City, Aug. 2002, pp. 201-204.
176. A. Fred and A.K. Jain, "Data Clustering Using Evidence Accumulation", Proc. ICPR, Quebec City, Aug. 2002, pp. 276-280.
177. A. K. Jain, X. Xu, T. Ho, F. Xiao, "Uniformity Testing Using Minimal Spanning Tree", Proc. ICPR, Quebec City, Aug. 2002, pp. 281-284.

178. A. Namboodri and A.K. Jain, "On-line Script Recognition", Proc. ICPR, Quebec City, Aug. 2002, pp. 736-739.
179. A. K. Jain and S. Minut, "Hierarchical Kernel Fitting for Fingerprint Classification and Filtering", Proc. ICPR, Quebec City, Aug. 2002, pp. 469-473.
180. A. Fred and A.K. Jain, "Evidence Accumulation Clustering Based on the K-Means Algorithm", Proc. SSPR 2002, Windsor, Aug. 2002, pp. 442-451.
181. D. Maio, D. Maltoni, R. Cappelli, J.L. Wayman and A.K. Jain, "FVC2002: Second Fingerprint Verification Competition", Proc. ICPR, Quebec City, Aug 2002, pp. 811-814.
182. Guo-Dang Guo, A.K. Jain, Wei-Ying Ma and Hong-Jiang Zhang, "Learning Similarity Measure for Natural Image Retrieval with Relevance Feedback," Proc. IEEE CVPR Conf., pp. I 731-736, Dec. 2001.
183. M.A.T. Figuerido and A.K. Jain, "Bayesian Learning of Sparse Classifiers", Proc. IEEE CVPR Conf., pp. 35-41, Dec. 2001.
184. S. Pankanti, S. Prabhakar and A.K. Jain, "On the Individuality of Fingerprints", Proc. IEEE CVPR Conf., pp.805-812, Dec. 2001.
185. A. Namboodri and A.K. Jain, "Structure in On-line Documents", Proc. ICDAR, pp. 844-848, Seattle, Sept. 2001.
186. A.K. Jain, A. Ross and S. Prabhakar, "Fingerprint Matching Using Minutiae and Texture Features", Proc. ICIP, Thessaloniki, pp. 282-285, Oct. 2001.
187. Rien-Lin Hsu and A.K. Jain, "Face Modeling for Recognition", Proc. ICIP, Thessaloniki, pp. 693-696, Oct. 2001.
188. Rien-Lin Hsu, M. Abdel-Mottaleb and A.K. Jain, "Face Detection in Color Images", Proc. ICIP, Thessaloniki, pp. 1046-1049, Oct. 2001.
189. S. Dass and A.K. Jain, "Markov Face Models", Proc. ICCV, Vancouver, pp. 680-687, July 2001.
190. D. Gutchess, M. Trajkovic, E. Cohen-Soleil, D. Lyons and A.K. Jain, "A Background Initialization Algorithm for Video Surveillance", Proc. ICCV, Vancouver, pp. 733-740, July 2001.
191. S. Prabhakar and A.K. Jain, "Decision Level Fusion in Fingerprint Verification", Proc. 2nd Int'l. Conf. on Multiple Classifier Systems, Cambridge, pp. 88-98, July 2001.
192. A.K. Jain, S. Prabhakar and S. Pankanti, "Twin Test: On Discriminability of Fingerprints", Proc. 3rd AVBPA Conf., Halmstad, Sweden, pp. 211-216, July 2001.
193. A. Ross, A.K. Jain and Jian Zong Qian, "Information Fusion in Biometrics", Proc. 3rd AVBPA Conf., Halmstad, Sweden, pp. 354-359, June 2001.
194. B. Kamgar-Parsi, B. Kamgar-Parsi, J. Dayhoff and A.K. Jain, "Avoiding Metric Similarity Measure in ATR" SPIE Aerosense, Orlando, FL, April 24-28, 2000, Padova, Italy.
195. N. Ratha, A.K. Jain and D. Rover, "FPGA-Based Coprocessor for Text String Extraction", Proc. Computer Architecture for Machine Perception 2000, Padova, Sept. 2000.
196. A.Vailaya and A.K. Jain, "Reject Option for VQ-Based Bayesian Classification", Proc. 15th Int'l Conference on Pattern Recognition, Barcelona, pp. 48-51, Sept. 2000.
197. S. Connell, R.M.K. Sinha and A.K. Jain, "Recognition of Unconstrained On-Line Devanagari Characters", Proc. 15th Int'l. Conference on Pattern Recognition, Barcelona, pp. 368-371, Sept. 2000.
198. S. Prabhakar, A.K. Jain, J. Wang, S. Pankanti and R. Bolle, "Minutia Verification and Classification for Fingerprint Matching" Proc. 15th Int'l. Conference on Pattern Recognition, Barcelona, pp. 25-29, Sept. 2000.
199. M. Figueiredo and A.K. Jain, "Unsupervised Selection and Estimation of Finite Mixture Models", Proc. 15th Int'l. Conference on Pattern Recognition, Barcelona, pp. 87-90, Sept. 2000.

200. D. Gutchess and A.K. Jain, "Automatic Surveillance Using Omnidirectional and Active Cameras", Proc. 4th Asian Conf. Computer Vision, Taipei, Jan. 2000.
201. R.L. Hsu, A.K. Jain and M. Tuceryan, "Multiresolution Model Compression Using 3D Wavelets", Proc. 4th Asian Conf. Computer Vision, Taipei, Jan. 2000.
202. A. Vailaya and A.K. Jain, "Detecting Sky and Vegetation in Outdoor Images", Proc. SPIE Conf., San Jose, Jan. 2000.
203. L. Hong, A.K. Jain and S. Pankanti, "Can Multibiometrics Improve Performance?", Proc. Auto ID '99, Oct. 28-29, 1999, pp. 59-64, Summit, NJ.
204. R.L. Hsu, S. Chen and A.K. Jain, "Local Weight Selection for Two-Dimensional Phase Unwrapping", Proc. Int'l. Conf. Image Processing, Oct. 1999, Kobe, Japan.
205. A.K. Jain and N. Duta, "Deformable Matching of Hand Shapes for User Verification", Proc. Int'l. Conf. Image Processing, Oct. 1999, Kobe, Japan.
206. A. Vailaya and A.K. Jain, "Incremental Learning for Bayesian Image Classification", Proc. Int'l. Conf. Image Processing, Oct. 1999, Kobe, Japan.
207. A. Vailaya, H.J. Zhang and A.K. Jain, "Automatic Image Orientation Detection", Proc. Int'l. Conf. Image Processing, Oct. 1999, Kobe, Japan. A. Vailaya received the Best Student Paper Award at Int'l. Conf. Image Processing.
208. Y. Zhong, H.J. Zhang and A.K. Jain, "Text Location in Compressed Images", Proc. Int'l. Conf. Image Processing, Oct. 1999, Kobe, Japan.
209. S. Connell and A.K. Jain, "Writer Adaptation of on-line Handwriting Models", Proc. of 5th Int'l. Conf. Document Analysis and Recognition, Bangalore, India, pp. 434-437, Sept. 1999.
210. N. Duta, A.K. Jain and M.P. Dubuisson-Jolly, "Learning-based Object Detection in Cardiac MR Images", Proc. Int'l. Conf. Computer Vision, Corfu, Greece, Sept. 1999.
211. N. Duta and A.K. Jain, "Learning 2D Shape Models", Proc. Computer Vision and Pattern Recognition '99, Ft. Collins, pp. 8-13, June 1999.
212. N. Duta, M. Sonka and A.K. Jain, "Learning Shape Models from Examples Using Automatic Shape Clustering and Procrustes Analysis", Proc. IPMI '99, June 1999.
213. R. Lundervold, N. Duta, T. Taxt and A.K. Jain, "Model-Guided Segmentation of Corpus Callosum in MR Images", Proc. Computer Vision and Pattern Recognition '99, Ft. Collins, pp. 231-237, June 1999.
214. A.K. Jain, S. Prabhakar, L. Hong, and S. Pankanti, "Fingercode: A Filterbank for Fingerprint Representation and Matching", Proc. Computer Vision and Pattern Recognition '99, Ft. Collins, pp. 187-192, June 1999.
215. A. Vailaya, M. Figueiredo, A.K. Jain and H.-J. Zhang, "Content-Based Hierarchical Classification of Vacation Images", Proc. IEEE Multimedia Systems '99, Florence, pp. 519-523, June 1999.
216. B. Kamgar-Parsi, B. Kamgar-Parsi and A.K. Jain, "Automatic Aircraft Recognition: Toward Using Human Similarity Measure in a Recognition System", Proc. Computer Vision and Pattern Recognition '99, Ft. Collins, pp. 268-273, June 1999.
217. A.K. Jain, A. Ross and S. Pankanti, "A Prototype Hand Geometry-Based Verification System", Proc. Second Int'l. Conf. on Audio and Video-based Biometric Person Authentication, Washington, D.C., pp. 166-171, March 1999.
218. A.K. Jain, L. Hong and Y. Kulkarni, "A Multimodal Biometric System Using Fingerprint, Face and Speech", Proc. Second Int'l. Conf. on Audio and Video-based Biometric Person Authentication, Washington, D.C., March 1999.
219. A.K. Jain, S. Prabhakar and L. Hong, "A Multichannel Approach to Fingerprint Classification", Indian Conf. Computer Graphics, Vision and Image Processing, New Delhi, Dec. 1998.

220. A.K. Jain and B. Yu, "Automatic Text Location in Images and Video Frames", Proc. 14th Int'l. Conf. Pattern Recognition, Brisbane, pp. 1497-1499, pp. 1497-1499, Aug. 1998.
221. Y. Li and A.K. Jain, "Classification of Text Documents", Proc. 14th Int'l. Conf. Pattern Recognition, Brisbane, pp. 1295-1297, Aug. 1998.
222. A.K. Jain, L. Hong, and Yatin Kulkarni, "F2ID: A Personal Identification System Using Faces and Fingerprints", Proc. 14th Int'l. Conf. Pattern Recognition, Brisbane, pp. 1373-1375, Aug. 1998.
223. J. Liu and A.K. Jain, "Image-Based Form Document Retrieval", Proc. 14th Int'l. Conf. Pattern Recognition, Brisbane, pp. 626-628, Aug. 1998.
224. N. Duta and A.K. Jain, "Learning the Human Face Concept from Black and White Pictures", Proc. 14th Int'l. Conf. Pattern Recognition, Brisbane, pp. 1365-1367, Aug. 1998.
225. S. Connell and A.K. Jain, "Learning Prototypes for On-Line Handwritten Digits", Proc. 14th Int'l. Conf. Pattern Recognition, Brisbane, pp. 182-184, Aug. 1998.
226. A.K. Jain, A. Vailaya and W. Xiong, "Query by Video Clip", Proc. 14th Int'l. Conf. Pattern Recognition, Brisbane, pp. 909-911, Aug. 1998.
227. J. Strand, Y. Li, A.K. Jain and C. Mercer, "Three-Dimensional Object Model Construction from Multiple Range Views", Proc. SPIE Conf. Laser Interferometry IX: Techniques and Analysis, Vol. 3478, San Diego, July 1998.
228. L. Hong, Y. Wan and A.K. Jain, "Fingerprint Image Enhancement: Algorithms and Performance Evaluation", Proc. IEEE Comp. Soc. Workshop on Empirical Evaluation Techniques in Computer Vision, Santa Barbara, June 1998, pp. 117-134.
229. A. Vailaya, A.K. Jain and H.J. Zhang, "On Image Classification: City versus Landscape", IEEE Workshop on Content-based Access of Image Databases, June 23, 1998, Santa Barbara.
230. A. Sudhir, C.M. Lee and A.K. Jain, "Automatic Classification of Tennis Video for High-Level Content-Based Retrieval", Proc. Workshop on Content-Based Retrieval, Jan. 3, 1998, Bombay.
231. L. Hong and A.K. Jain, "Integrating Faces and Fingerprints for Personal Identification", Proc. 3rd Asian Conf. Computer Vision, Hong Kong, Jan. 1998.
232. Y. Zhong, M.-P. Jolly and A.K. Jain, "Object Tracking Using Deformable Templates", Proc. 5th Int'l. Cong. Computer Vision, Bombay, Jan. 1998.
233. N.K. Ratha and A.K. Jain, "FPGA-Based Computing in Computer Vision", Proc. IEEE Conf. On Computer Architecture for Machine Perception, (CAMP'97), Boston, pp. 128-137, Oct. 1997.
234. N.K. Ratha and A.K. Jain, "Multilayer Perceptron on Splash-2", Proc. IEEE Conf. On Computer Architecture for Machine Perception (CAMP-97), Boston, pp. 138-142, Oct. 1997.
235. B. Yu and A.K. Jain, "Lane Boundary Detection Using a Multiresolution Hough Transform", Proc. IEEE Int'l. Conf. Image Processing, Santa Barbara, Oct. 1997.
236. A. Kurt, M. Gokmen and A.K. Jain, "Image Compression Based on Centipede Model", Proc. 9th International Conf. On Image Analysis and Processing, Florence, Italy, pp. 303-310, Sept. 1997.
237. A.K. Jain and B. Yu, "Model-Based Document Representation: Application to Page Segmentation", Proc. Int'l. Conf. Document Analysis and Recognition '97, Ulm, Germany, pp. 34-38, Aug. 1997.
238. B. Yu, M. Mohiuddin and A.K. Jain, "Address Block Location on Complex Mail Pieces", Proc. Int'l. Conf. Document Analysis and Recognition '97, Ulm, Germany, pp. 897-901, Aug. 1997.
239. M. Figueiredo, J. Leitao and A.K. Jain, "Adaptive B-Splines and Boundary Estimation", Proc. IEEE Computer Vision and Pattern Recognition Conf., San Juan, pp. 724-730, June 1997.

240. J. Mao and A.K. Jain, "A Note on the Effective Number of Parameters in Nonlinear Learning Systems", Proc. of Int'l Conf. Neural Networks '97, Houston, pp. 1045-1050, June 1997.
241. M. Figueiredo, J. Leitaó and A.K. Jain, "Adaptive Parametrically Deformable Contours", Proc. Workshop on Energy Minimization Methods in Computer Vision and Pattern Recognition, Venice, Italy, May 1997, pp. 35-50.
242. Y. Zhong and A.K. Jain, "Object Localization Using Color, Texture and Shape", Proc. Workshop on Energy Minimization Methods in Computer Vision and Pattern Recognition, Venice, pp. 279-294, May 1997.
243. L. Hong, A.K. Jain, R. Bolle and S. Pankanti, "Identity Authentication Using Fingerprints", Proc. of First Int'l. Conf. On Audio-and Video-Based Biometric Person Authentication, Switzerland, pp. 103-110, March 1997.
244. A.K. Jain, S. Goel, S. Agarwal, V. Mittal, H. Sharma and R. Mahindru, "Multimedia Systems for Art and Culture: A Case Study of Brihadisvara Temple", Proc. SPIE: Storage and Retrieval for Image and Video Databases, San Jose, Feb. 1997.
245. L. Hong, A.K. Jain, S. Pankanti and R. Bolle, "Fingerprint Enhancement", Proc. IEEE Workshop on Applications of Computer Vision, Sarasota, FL, pp. 202-207, Dec. 1996.
246. B. Yu and A.K. Jain, "A Form Dropout System", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 701-705, Aug. 1996.
247. A. Vailaya, Y. Zhong and A.K. Jain, "A Hierarchical System for Efficient Image Retrieval", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 356-360, Aug. 1996.
248. A.K. Jain and D. Zongker, "Algorithms for Feature Selection: An Evaluation", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 18-22, Aug. 1996.
249. C. Dorai, G. Wang, A.K. Jain and C. Mercer, "From Images to Models: Automatic 3D Object Model Construction for Multiple Views", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 770-774, Aug. 1996.
250. O. Trier, T. Taxt and A.K. Jain, "Gray Scale Processing of Hydrographic Maps", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 870-874, Aug. 1996.
251. B. Kroeplin, A. Vailaya and A.K. Jain, "Image Databases: A Case Study in Norwegian Silver", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 370-374, Aug. 1996.
252. P. McKinley, D. Judd and A.K. Jain, "Large-Scale Parallel Data Clustering", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 488-493, Aug. 1996.
253. L. Hong and A.K. Jain, "On-Line Fingerprint Verification", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 596-600, Aug. 1996.
254. Dorai and A.K. Jain, "Recognition and Pose Estimation of Free-Form Objects", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 697-701, Aug. 1996.
255. K. Karu, A.K. Jain and R. Bolle, "Is There Any Texture in the Image", Proc. 13th Int'l. Conference on Pattern Recognition, Vienna, pp. 770-774, Aug. 1996.
256. M. Gokmen, I. Ersoy and A.K. Jain, "Compression of Fingerprint Images Using Hybrid Image Model", Proc. Int'l. Conf. Image Processing '96, Lausanne, Sept. 1996.
257. M. Gokmen and A.K. Jain, " - Space Representation of Images and Generalized Edge Detector", Proc. IEEE Computer Vision and Pattern Recognition Conf., San Francisco, June 1996.
258. N. Ratha, D. Rover and A.K. Jain, "FPGA-Based High Performance Page Layout Segmentation", Proc. Sixth Great Lakes Symposium on VLSI, Ames, Iowa, pp. 29-34, March 1996.
259. A. Murni, A. Rais and A.K. Jain, "An Integrated Multisensor Image Classification Scheme for Land-Cover Mapping", Proc. 2nd Asian Conf. on Computer Vision, Singapore, pp. III-92-III-96, Dec. 1995.

260. A.K. Jain and A. Vailaya, "Image Retrieval Using Color and Shape", Proc. 2nd Asian Conf. Computer Vision, Singapore, pp. II-529-II-533, Dec. 1995.
261. A.K. Jain and C. Dorai, "Practicing Vision: Integration, Evaluation and Applications", Proc. 2nd Asian Conf. Computer Vision, Singapore, pp. 15-23, Dec. 1995.
262. A.K. Jain, "Document Processing Research at Michigan State University", Proc. 1995 Symposium on Document Image Understanding Technology, Bowie, MD, pp. 126-140, Oct. 24, 1995.
263. A.K. Jain, "Texture Analysis: Representation and Matching", Proc. 8th Italian Conf. on Image Processing and Analysis, San Remo, pp. 1-12, Sept. 1995.
264. A.K. Jain and C. Dorai, "View Organization and Matching of Free-Form Objects", 1995 IEEE Internat'l. Symp. on Computer Vision, Coral Gables, FL, pp. 25-30, Nov. 1995.
265. M.-P. Dubuisson, S. Lakshmanan and A.K. Jain, "Vehicle Segmentation Using Deformable Templates", 1995 IEEE Internat'l. Symp. on Computer Vision, Coral Gables, FL, pp. 581-586, Nov. 1995.
266. S. Pankanti and A.K. Jain, "A Uniform Bayesian Framework for Integration", 1995 IEEE Internat'l. Symp. on Computer Vision, Coral Gables, FL, pp. 497-502, Nov. 1995.
267. C. Dorai and A.K. Jain, "Shape-Spectra Based View Grouping for Free-Form Objects", Int'l. Conf. Image Processing '95, Washington, D.C., pp. 340-343, Oct. 1995.
268. A.K. Jain and Y. Zhong, "Page Segmentation Using Texture Discrimination Masks", Proc. of 1995 International Conference on Image Processing, Washington, D.C., pp. 308-311, Oct. 1995.
269. S. Lakshmanan, Y. Zhong and A.K. Jain, "Detecting Straight Edges in Millimeter-Wave Images", Int'l. Conf. Image Processing '95, Washington, D.C., pp. 258-261, Oct. 1995.
270. N. Ratha, D. Rover and A.K. Jain, "An FPGA-Based Point Pattern Matching Processor with Application to Fingerprint Matching", Computer Architecture for Machine Perception '95, Italy, pp. 394-401, Sept. 1995.
271. N. Ratha, A.K. Jain and M.J. Chung, "Clustering Using Coarse-Grained Parallel Genetic Algorithm: A Preliminary Study", Computer Architecture for Machine Perception '95, Italy, pp. 331-338, Sept. 1995.
272. N. Ratha, M. Gokmen and A.K. Jain, "A Distributed Edge Detection and Surface Reconstruction Algorithm", Computer Architecture for Machine Perception '95, Italy, pp. 149-154, Sept. 1995.
273. O. Trier, T. Taxt and A.K. Jain, "Data Capture from Maps Based on Gray Scale Topographic Analysis", Third Int'l. Conf. on Document Analysis and Recognition (Int'l. Conf. Document Analysis and Recognition '95), Montreal, pp. 923-926, Aug. 1995.
274. Y. Zhong, K. Karu and A.K. Jain, "Locating Text in Complex Color Images", Int'l. Conf. Document Analysis and Recognition '95, Montreal, pp. 146-149, Aug. 1995.
275. A. Schistad Solberg and A.K. Jain, "A Study of the Invariance Properties of Textural Features in SAR Images", IGARS Conf., Florence, July 1995, pp. 670-672.
276. G. Gimel'farb and A.K. Jain, "Retrieving Texture Images from an Image Data Base", Proc. 9th Scandinavian Conf. on Image Analysis", June 1995, Uppsala, Sweden, pp. 441-448.
277. C. Dorai and A.K. Jain, "COSMOS - A Representation Scheme for Free-Form Surfaces", Proc. 5th IEEE International Conference on Computer Vision, Boston, pp. 1024-1029, June 1995.
278. N. Ratha, A.K. Jain and D. Rover, "Convolution on Splash 2", Proc. IEEE FCCM-95, Napa Valley, pp. 204-213, April 1995.
279. M.-P. Dubuisson and A.K. Jain, "Fusing Color and Edge Information for Object Matching", Proc. 1st IEEE Int'l Conf. Image Processing, Austin, pp. 982-986, Nov. 1994.

280. S. Lakshmanan, Y. Zhong and A.K. Jain, "Multiresolution Image Representation Using Markov Random Fields", Proc. 1st IEEE Int'l Conf. Image Processing, Austin, pp. 855-860, Nov. 1994.
281. O. Trier and A.K. Jain, "Goal-directed Evaluation of Binarization Methods", Proc. NSF/ARPA Workshop on Performance Versus Methodology in Computer Vision, Seattle, pp. 206-217, June 1994.
282. A.K. Jain and K. Karu, "Automatic Filter Design for Texture Discrimination", Proc. 12th Int'l. Conf. on Pattern Recognition, pp. 454-458, Oct. 1994, Jerusalem.
283. M.-P. Dubuisson and A.K. Jain, "A Modified Hausdorff Distance for Object Matching", Proc. 12th Int'l. Conf. on Pattern Recognition, pp. 566-568, Oct. 1994, Jerusalem.
284. J. Mao, K. Mohiuddin and A.K. Jain, "Minimal Network Design and Feature Selection Through Node Pruning", Proc. 12th Int'l. Conf. on Pattern Recognition, pp. 622-624, Oct. 1994, Jerusalem.
285. D. Judd, N. Ratha, P. McKinley, A.K. Jain and J. Weng, "Parallel Implementation of Vision Algorithms on Workstation Clusters", Proc. 12th Int'l. Conf. on Pattern Recognition, pp. 317-321, Oct. 1994, Jerusalem.
286. C. Dorai, J. Weng and A.K. Jain, "Optimal Registration of Multiple Range Views", Proc. 12th Int'l. Conf. on Pattern Recognition, pp. 569-571, Oct. 1994, Jerusalem.
287. B. Gunsel, A.K. Jain and E. Panayirci, "Boundary Detection Using Multiscale Markov Random Fields", Proc. 12th Int'l. Conf. on Pattern Recognition, pp. 173-177, Oct. 1994, Jerusalem.
288. M.-P. Dubuisson and A.K. Jain, "Matching Vehicles for Travel Time Estimation", IEEE Intelligent Vehicle Symposium, pp. 266-271, Oct. 1994, Paris, France.
289. N. Ratha, S. Lakshmanan and A.K. Jain, "Object Detection in the Presence of Clutter Using Gabor Filters", Proc. SPIE Symposium on Applications of Digital Image Processing XVII, San Diego, CA, July 1994, pp. 612-619.
290. K. Karu and A.K. Jain, "Learning Texture Discrimination Masks", Proc. IEEE Conf. Neural Networks, pp. 4374-4379, June 1994, Orlando.
291. J. Mao and A.K. Jain, "A Self-Organizing Network for Hyperellipsoidal Clustering (HEC)", Proc. IEEE Conf. Neural Networks, pp. 2967-2972, June 1994, Orlando.
292. S. Pankanti, M. Tuceryan and A.K. Jain, "On Integration of Vision Modules", Proc. IEEE Computer Vision and Pattern Recognition Conference, pp. 316-322, June 1994, Seattle.
293. M.-P. Dubuisson and A.K. Jain, "2D Matching of 3D Moving Objects in Color Outdoor Scenes", Proc. IEEE Computer Vision and Pattern Recognition Conference, pp. 887-891, June 1994, Seattle.
294. J. Courtney and A.K. Jain, "Mobile Robot Localization via Classification of Multisensor Maps", Proc. IEEE International Conference on Robotics and Automation, May 8-13, 1994, pp. 1672-1678, San Diego.
295. T. Newman and A.K. Jain, "Bidirectional Template Matching for 3D CAD-Based Inspection", Proc. SPIE Conf. on Machine Vision Applications in Industrial Vision II, Feb. 1994.
296. T. Newman and A.K. Jain, "CAD-Based Inspection of 3D Objects Using Range Images", Proc. 2nd IEEE CAD-Based Vision Workshop, Champion, PA, pp. 236-243, Feb. 1994.
297. J. Mao, P.J. Flynn and A.K. Jain, "Integration of Multiple Feature Groups and Multiple Views into a 3D Object Recognition System", Proc. 2nd IEEE CAD-Based Vision Workshop, Champion, PA, pp. 184-191, Feb. 1994.
298. A.K. Jain and Y. Chen, "Bar Code Localization Using Texture Analysis", Proc. Second International Conference on Document Analysis and Recognition, Tsukuba, Japan, pp. 41-44, Oct. 1993.

299. H. Dulimarta and A.K. Jain, "Modular Agents for Robot Navigation", Proc. SPIE Sensor Fusion VI Conference, Boston, Vol. 2059, Sept. 1993.
300. J. Mao and A.K. Jain, "Regularization Techniques in Artificial Neural Networks", Proc. World Congress on Neural Networks, Vol. 4, Portland, pp. 75-79, July 1993.
301. C. Dorai, S. Pankanti and A.K. Jain, "Robust Feature Detection for 3D Object Recognition and Matching", Proc. of SPIE Conference on Geometric Methods in Computer Vision, San Diego, pp. 366-377, July 1993.
302. M.-P. Dubuisson and A.K. Jain, "Object Contour Extraction Using Color and Motion", Proc. of IEEE Computer Vision and Pattern Recognition Conference, New York, pp. 471-476, June 1993.
303. A.K. Jain, "Object Recognition Using Range Images", Proc. 8th Scandinavian Conf. on Image Analysis, Tromso, Norway, pp. 797-805, May 1993.
304. A. Solberg, T. Taxt and A.K. Jain, "Fusion of Multitemporal Satellite Images and GIS Data for Land-Use Classification", Proc. 8th Scandinavian Conf. on Image Analysis, Tromso, Norway, pp. 691-697, May 1993.
305. J. Mao and A.K. Jain, "Discriminant Analysis Neural Network", Proc. 1993 IEEE International Conf. on Neural Networks, San Francisco, Vol. 1, pp. 300-305, March 1993.
306. A.K. Jain and J. Mao, "Artificial Neural Network for Nonlinear Projection of Multivariate Data", Proc. International Joint Conference on Neural Networks '92, Baltimore, pp. III-335-III-340, June 1992.
307. A. Schistad and A.K. Jain, "Texture Analysis in the Presence of Speckle Noise", Proc Int'l Geoscience and Remote Sensing Symposium, Houston, pp. 884-886, May 1992.
308. M. Tuceryan, N. Ahuja and A.K. Jain, "Supervised Classification of Early Perceptual Structures in Dot Patterns", Proc. 11th Int'l. Conference on Pattern Recognition, The Hague, pp. 88-91, Aug. 1992.
309. Q. Huang, G. Stockman and A.K. Jain, "Automatic Image Analysis of Plant Root Structures", Proc. 11th Int'l. Conference on Pattern Recognition, The Hague, pp. 569-572, Aug. 1992.
310. B. Gunsel and A.K. Jain, "Visual Surface Reconstruction and Boundary Detection Using Stochastic Models", Proc. 11th Int'l. Conference on Pattern Recognition, The Hague, pp. 343-346, Aug. 1992.
311. A.K. Jain and S. Bhattacharjee, "Address Block Location on Envelopes Using Gabor Filters", Proc. 11th Int'l. Conference on Pattern Recognition, The Hague, pp. 264-267, Aug. 1992.
312. T. Newman, A.K. Jain and H. Keshavan, "3D CAD Based Inspection I: Coarse Verification", Proc. 11th Int'l. Conference on Pattern Recognition, The Hague, pp.49-52, Aug. 1992.
313. T. Newman, R. Enbody and A.K. Jain, "3D Object Recognition: Interpretation Tree Search on a MIMD Machine", Proc. 11th Int'l. Conference on Pattern Recognition, The Hague, pp. 337-340, Aug. 1992.
314. J. Mao, M. Kraaijveld and A.K. Jain, "A Non Linear Projection Method Based on Kohonen's Topology Preserving Maps", Proc. 11th Int'l. Conference on Pattern Recognition, The Hague, pp. 41-45, Aug. 1992.
315. S. Nadabar and A.K. Jain, "Parameter Estimation in Markov Random Field Contextual Models Using Geometric Models of Objects", Proc. IEEE Computer Vision and Pattern Recognition Conf., Urbana, IL, pp. 528-533, June 1992.
316. A.K. Jain, S. Bhattacharjee and Y. Chen, "On Texture in Document Images", Proc. IEEE Computer Vision and Pattern Recognition Conf., Urbana, IL, pp. 677-680, June 1992.
317. N.S. Raja and A.K. Jain, "Obtaining Generic Parts from Range Data Using a Multi View Representation", Proc. SPIE: Applications of Artificial Intelligence X, Orlando, pp. 602-613, April 1992.

318. S. Nadabar and A.K. Jain, "Edge Detection and Labeling by Fusion of Intensity and Range Images", Proc. SPIE: Applications of Artificial Intelligence X, Orlando, vol. 1708, pp. 108-119, April 1992.
319. P. Flynn and A.K. Jain, "On a Taxonomy of Interpretation Trees", Proc. SPIE, Vol. 1607, Boston, Nov. 1991, pp. 548 558.
320. T. Taxt and A.K. Jain, "Image Restoration Methods Based on Quantum Field Models", Proc. IEEE 1991 Medical Imaging Conference, Santa Fe, Nov. 1991.
321. M.-P. Dubuisson, A.K. Jain and M. Madhukar, "Multisensor Fusion for Nondestructive Inspection of Fiber Reinforced Composite Materials", Proc. of Sixth Technical Conf. of the American Society of Composites, Albany, Oct. 1991, pp. 941 950.
322. N. Raja and A.K. Jain, "Obtaining a Part Based 3 D Object Representation from Range Data", Proc. IEEE TENCON '91, New Delhi, Aug. 1991, pp. 379 382.
323. T. Newman, P. Flynn and A.K. Jain, "Model Based Surface Classification", Proc. SPIE Conf. on Geometric Methods in Computer Vision, San Diego, July 1991, pp. 250 261.
324. A.K. Jain and J. Mao, "A K Nearest Neighbor Artificial Neural Network Classifier", Proc. International Conf. on Neural Networks, Seattle, July 1991, pp. 515 520.
325. F. Farrokhnia and A.K. Jain, "A Multi Channel Filtering Approach to Texture Segmentation", Proc. IEEE Computer Vision and Pattern Recognition Conf., Maui, June 1991, pp. 364 370.
326. P. Flynn and A.K. Jain, "3D Object Recognition Using Invariant Feature Indexing of Interpretation Tables", Proc. IEEE Computer Society CAD Based Vision Workshop, Maui, June 2 3, 1991, pp. 115 123.
327. P. Flynn and A.K. Jain, "BONSAI: 3D Object Recognition Using Constrained Search", Proc. 3rd ICCV, Osaka, Japan, Dec. 1990, pp. 263 267.
328. S. Nadabar and A.K. Jain, "MRF Model Based Segmentation of Range Images", Proc. 3rd ICCV, Osaka, Japan, Dec. 1990, pp. 667 671.
329. A.K. Jain, F. Farrokhnia and D. Alman, "Texture Analysis of Automotive Finishes", Proc. Vision '90, Detroit Michigan, Nov. 1990, pp. 8.1 8.16.
330. A.K. Jain and F. Farrokhnia, "Unsupervised Texture Segmentation Using Gabor Filters", Proc. 1990 IEEE Conf. on SMC, Los Angeles, CA, Nov. 1990, pp. 14 19.
331. R. Dubes, S. Nadabar, C.C. Chen and A.K. Jain, "MRF Model Based Algorithm for Image Segmentation", Proc. 10th Int'l. Conference on Pattern Recognition, Atlantic City, June 1990, pp. 808 814.
332. N. Raja, M. Tuceryan and A.K. Jain, "Texture Segmentation on Two High Performance Computers", Proc. 10th Int'l. Conference on Pattern Recognition, Atlantic City, June 1990, pp. 601 605.
333. S. Raudys and A.K. Jain, "Small Sample Size Effects in Statistical Pattern Recognition: Recommendations for Practitioners and Open Problems", Proc. 10th Int'l. Conference on Pattern Recognition, Atlantic City, June 1990, pp. 417 423.
334. M. Tuceryan and A.K. Jain, "Segmentation and Grouping of Object Boundaries", Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics, Cambridge, Mass., Nov. 1989, pp. 570 575.
335. P. Flynn, T. Taxt and A.K. Jain, "Segmentation of Document Images", Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics, Cambridge, Mass., Nov. 1989, pp. 1062 1067.
336. P. Flynn and A.K. Jain, "CAD Based Computer Vision: From CAD Models to Relational Graphs", Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics, Cambridge, Mass., Nov. 1989, pp. 162 167.
337. P.J. Flynn and A.K. Jain, "On Reliable Curvature Estimation", Proc. IEEE Conference on Computer Vision and Pattern Recognition, San Diego, June 1989, pp. 110 116.

338. G. Hu, R.S. Anbalagan and A.K. Jain, "A Segmentation and Object Extraction Algorithm with Linear Memory and Time Constraints", Proc. 8th International Conference on Pattern Recognition, Rome, Nov. 1988, pp. 596 600.
339. J. Chen and A.K. Jain, "A Structural Approach to Identify Defects in Textured Images", Proc. IEEE 1988 International Conference on Systems, Man, and Cybernetics, Beijing, Aug. 1988.
340. P.J. Flynn and A.K. Jain, "Surface Classification: Hypothesis Testing and Parameter Estimation", Proc. IEEE Conference on Computer Vision and Pattern Recognition, Ann Arbor, Michigan, June 1988, pp. 261 267.
341. M. Tuceryan, Y. Lee and A.K. Jain, "Texture Segmentation Using Voronoi Polygons", Proc. IEEE Conference on Computer Vision and Pattern Recognition, Ann Arbor, Michigan, June 1988, pp. 94 99.
342. R. Hoffman and A.K. Jain, "Learning Rules for 3D Object Recognition", Proc. IEEE Conference on Computer Vision and Pattern Recognition, Ann Arbor, Michigan, June 1988, pp. 885 892.
343. J. Ton, W. Hudson, W. Enslin and A.K. Jain, "Automatic Road Detection in LANDSAT TM Images", Proc. International Remote Sensing Symposium, Ann Arbor, Michigan, Oct. 1987.
344. R. Hoffman and A.K. Jain, "An Evidence Based 3D Vision System for Range Images", Proc. 1st. International Conference on Computer Vision, London, June 1987, pp. 521 525.
345. M. Tuceryan, Y. Lee and A.K. Jain, "Extracting Perceptual Structures in Line Patterns", Proc. 5th Scandinavian Conference on Image Analysis, Stockholm, June 1987, pp. 531 538.
346. R. Enslin, J. Ton and A.K. Jain, "Land Cover Change Detection Using a GIS Guided, Feature Based Classification of Landsat Thematic Mapper Data", Proc. American Society of Photogrammetry, Washington, D.C., March 1987.
347. R. Hoffman and A.K. Jain, "Evidence based Recognition of 3D Objects", Proc. of SPIE Symposium on Electro optic Imaging Systems & Devices, vol. 754, Los Angeles, Jan. 1987, pp. 260 267.
348. J. Coggins and A.K. Jain, "Surface Orientation from Texture", Proc. IEEE International Conference on Systems, Man, and Cybernetics, Atlanta, Oct. 1986.
349. A.K. Jain, "Computer Vision", Proc. Symposium on Microcomputers for Developing Countries, Lisbon, Oct. 1986.
350. A.K. Jain, R.C. Dubes and C.C. Chen, "Bootstrapping Techniques for Error Estimation", Proc. 8th International Conference on Pattern Recognition, Paris, Oct. 1986, pp. 330 332.
351. R. Hoffman and A.K. Jain, "Sparse Decomposition for Exploratory Pattern Analysis", Proc. 8th International Conference on Pattern Recognition, Paris, Oct. 1986, pp. 333 335.
352. G. Hu, G. Stockman and A.K. Jain, "Shape from Light Stripe Texture", Proc. IEEE Conference on Computer Vision and Pattern Recognition, Miami Beach, June 1986, pp. 412 414.
353. R. Hoffman and A.K. Jain, "Segmentation and Classification of Range Images", Proc. IEEE Conference on Computer Vision and Pattern Recognition, Miami Beach, June 1986, pp. 446 451.
354. J.V. Moreau and A.K. Jain, "How Many Clusters?", Proc. IEEE Conference on Computer Vision and Pattern Recognition, Miami Beach, June 1986, pp. 634 636.
355. A.K. Jain and R. Hoffman, "Interpretation of Range Images", Proc. Artificial Intelligence and Advanced Computer Technology Conference, Long Beach, April 1986, pp. 81 86.
356. G. Stockman and A.K. Jain, "Imaging Environment and General Image Processing Algorithms", Proc. of American Society of Agriculture Engineers Summer Meeting, East Lansing, June 1985.
357. A.K. Jain, "Experiments in Texture Analysis Using Spatial Filtering", Proc. of IEEE Workshop on Languages for Automation, Palma de Mallorca, June 1985, pp. 66 70.

358. S.P. Smith and A.K. Jain, "Test for Multivariate Normality", Proc. of IEEE Conference on Computer Vision and Pattern Recognition, San Francisco, June 1985, pp. 423 425.
359. D. Ittner and A.K. Jain, "3 D Surface Discrimination from Local Curvature Measures", Proc. of IEEE Conference on Computer Vision and Pattern Recognition, San Francisco, June 1985, pp. 119 123.
360. D. Ittner and A.K. Jain, "Segmentation of Range Data", Proc. of Artificial Intelligence and Advanced Computer Technology Conference, Long Beach, April 1985, pp. 23 28.
361. Z. You and A.K. Jain, "Performance Evaluation of Shape Matching via Chord Length Distribution", Proc. of First International Conference on Computers and Applications, Beijing, June 1984, pp. 555 562.
362. G. Cross and A.K. Jain, "Application of Image Models to Texture Homogeneity", Proc. of 1983 International Conference on Systems, Man, and Cybernetics, Bombay, Jan. 1984, pp. 24 27.
363. R. Dubes and A.K. Jain, "Are the Sensor Data Random?", Proc. of 1983 Conference on Artificial Intelligence, Rochester, Michigan, April 1983, pp. 984 991.
364. L. Ni and A.K. Jain, "A VLSI Systolic Architecture for Pattern Clustering", Proc. of IEEE Workshop on Computer Architecture for Pattern Analysis and Image Database Management, Pasadena, CA., Oct. 1983.
365. G. Cross and A.K. Jain, "Measures of Homogeneity in Textures", Proc. of IEEE Conference on Computer Vision and Pattern Recognition, Washington, D.C., June 1983, pp. 211 216.
366. S. Smith and A.K. Jain, "Testing for Uniformity in Multidimensional Data", Proc. of IEEE Conference on Computer Vision and Pattern Recognition, Washington, D.C., June 1983, pp. 166 167.
367. G. Cross, N. Wyse and A.K. Jain, "Multivariate Normality in Pattern Recognition and Clustering", Proc. 6th International Conference on Pattern Recognition, Munich, Germany, 1982, pp. 862 864.
368. A. Goshtasby, W.R. Enslin and A.K. Jain, "Automatic Digital Image Registration", Proc. Eighth International Symposium on Machine Processing of Remotely Sensed Data, West Lafayette, July 1982, pp. 347 352.
369. S. Smith and A.K. Jain, "Structure of Multidimensional Patterns", Proc. IEEE Conference on Pattern Recognition and Image Processing, Las Vegas, Nevada, June 1982, pp. 1 5.
370. G. Cross and A.K. Jain, "Recent Developments in Markovian Image Models", Proc. SOUTH-EASTCON, Destin, Florida, April 1982, pp. 360 363.
371. G. Cross and A.K. Jain, "Measurement of Clustering Tendency", Proc. IFAC Symposium on Digital Control, New Delhi, Jan. 1982, pp. 24 29.
372. G. Cross and A.K. Jain, "Markov Random Field Texture Models", Proc. IEEE Conference on Pattern Recognition and Image Processing, Dallas, Aug. 1981, pp. 597 602.
373. S. Smith and A.K. Jain, "Chord Distributions for Shape Matching", Proc. IEEE Conference on Pattern Recognition and Image Processing, Dallas, Aug. 1981, pp. 168 170.
374. J. Flora, A.K. Jain and S. Smith, "Computer Classification of Eddy Current Signals for Automatic Inspection of Steam Generator Tubes", abstracted in Proc. of Workshop on Digital Signal and Waveform Analysis, Miami Beach, Dec. 1980.
375. O. Tosi, R.C. Dubes and A.K. Jain, "Speaker Identification Studies on Choral Speech", Proc. Carnahan Conference on Crime Countermeasures, Lexington, Kentucky, May 1979, pp. 150 156.
376. R. Dubes and A.K. Jain, "Models and Methods in Cluster Validity", Proc. IEEE Conference on Pattern Recognition and Image Processing, Chicago, May 1978, pp. 148 155.

377. W. Waller and A.K. Jain, "Mean Recognition Accuracy of Dependent Binary Measurements", Proc. Seventh International Conference on Cybernetics and Society, Washington, D.C., Sept. 1977, pp. 586 590.
378. E. Backer and A.K. Jain, "On Feature Ordering in Practice and Some Finite Sample Effects", Proc. Third International Joint Conference on Pattern Recognition, Coronado, California, Nov. 1976, pp. 45 49.
379. A.K. Jain and B. Chandrasekaran, "On Balancing Decision Functions", appears in the abstracts of papers presented at the 1976 International Symposium on Information Theory, Ronneby, Sweden, June 1976, p. 142.
380. A.K. Jain and B. Chandrasekaran, "Distance Functions for Independent Measurements and Finite Sample Size", Proc. Second International Joint Conference on Pattern Recognition, Lyngby, Denmark, Aug. 1974, pp. 41 42.
381. A.K. Jain and B. Chandrasekaran, "Conditions for Perfect Discrimination for Independent Measurements", Proc. of Sixth Hawaii International Conference on Systems Science, Honolulu, Jan. 1973, pp. 70 72.
382. B. Chandrasekaran and A.K. Jain, "Quantization of Independent Measurements and Recognition Performance", appears in the abstracts of papers presented at the International Symposium on Information Theory, Pacific Grove, CA, Jan. 1972.

SHORT COURSES

- "Biometric Recognition", 19th SIBGRAPI, Manaus, Brazil, Oct. 2006
- "Biometric Recognition", 18th ICPR, Hong Kong, Aug. 2006
- "Multimodal Biometrics", ICB, Hong Kong, Jan. 2006
- "Fingerprint Matching", Int'l Conf. Pattern Recognition & Machine Intelligence, Kolkata, Dec 2005
- "Fingerprint Matching", Croucher Advanced Study Institute, Hong Kong, Dec. 2004
- "Biometrics Recognition", 17th ICPR, Cambridge, Aug. 2004
- "Data Mining", Eaton Corporation, April 2004
- "Pattern Recognition", Eaton Corporation, April 2003
- "Biometrics Recognition", 14th ICPR, Brisbane, Aug. 1998
- "Pattern Recognition and Neural Networks", 13th ICPR, Vienna, Aug. 1996
- "Pattern Recognition and Neural Networks", 2nd ACCV, Singapore, Dec. 1995
- "Statistical Pattern Recognition", 12th ICPR, Jerusalem, Oct. 1994
- "Statistical Pattern Recognition", IEEE CVPR Conference, Seattle, June 1994
- "Artificial Neural Networks and Pattern Recognition", 11th ICPR, Hague, Aug. 1992
- "Pattern Recognition & Image Proc.", ONR U.S. India Workshop on Biofouling, Aurangabad, Aug. 1991
- "Statistical Pattern Recognition", 10th ICPR, Atlantic City, June 1990
- "Pattern Recognition and Data Analysis", Lifelong Education, MSU, July 1989
- "Pattern Recognition", Norwegian Computing Center, Oslo, March 1987
- "Statistical Pattern Recognition", 8th ICPR, Paris, Oct. 1986
- "Statistical Pattern Recognition", 1985 IEEE CVPR Conference, San Francisco, June 1985
- "Statistical Pattern Recognition", Northrop, Anaheim, California, March 1985
- "Pattern Recognition and Image Processing", TRDDC, Pune, India, Dec. 1983 and July 1984
- "Pattern Recognition and Nondestructive Testing", Tata Electric, Bombay, India, July 1984

- “Statistical Pattern Recognition”, Lear Siegler, Grand Rapids, Michigan, July 1983
- “Signal Processing”, Continuing Education, MSU, Nov. 1978
- “Computer Science”, High School Summer Engineering Institute, MSU, June 1978

THESIS SUPERVISION

PH.D. STUDENTS

1. Alessandra A. Paulino, ”Contributions to Biometric Recognition: Matching Identical Twins and Latent Fingerprints”, 2013
2. Kien Nguyen, ”Contributions to Computer-aided Diagnosis of Prostate Cancer in Histopathology”, 2013
3. Brendan Klare, “Heterogeneous Face Recognition”, 2012 (Noblis)
4. Abhishek Nagar, “Biometric Template Security”, 2012 (Samsung)
5. Pavan Kumar Mallapragada, “Some Contributions to Semi-supervised Learning”, 2010 (Black-Locus)
6. Unsang Park, “Face Recognition: Face in Video, Age Invariance, and Facial Marks”, 2009 (Sogang University)
7. Yi Chen, “Extended Feature set and Touchless Imaging for Fingerprint Matching”, 2009 (Digital Persona)
8. Karthik Nandakumar, “Multibiometric Systems: Fusion Strategies and Template Security”, 2008 (I2R, Singapore)
9. Hong Chen, “Dental Biometrics”, 2007 (Amazon)
10. Xiaoguang Lu, “3D Face Recognition”, 2006 (Siemens)
11. Martin Law, “Clustering and Dimensionality Reduction”, 2006 (Google)
12. Umut Uludag, “Secure Biometric Systems”, 2006 (NRIEC, Istanbul)
13. Anoop Namboodiri, “On-line Handwritten Document Understanding”, 2004 (IIIT, Hyderabad)
14. Michael Farmer, “Segmentation, Classification, and Tracking of Humans for Smart Airbag Applications”, 2004 (University of Michigan, Flint)
15. Arun Ross, “Information Fusion in Fingerprint Authentication”, 2003 (Michigan State University)
16. Rein-Lien Hsu, “Face Detection, Recognition and Tracking”, 2002 (MorphoTrust)
17. Salil Prabhakar, “Fingerprint Matching and Classification Using a Filterbank”, 2001 (DeltaID)
18. Aditya Vailaya, “Semantic Classification of Images”, 2000 (Barnes & Noble)
19. Scott Connell, “On-line Cursive Handwriting Recognition”, 2000 (General Dynamics)
20. Nicolae Duta, “Learning-based Detection, Segmentation and Matching of Objects”, 2000 (Microsoft)
21. Lin Hong, “Fingerprint Matching”, 1998 (Abbott)
22. Yu Zhong, “Deformable Models for Object Matching”, 1997 (BAE Systems)
23. Nalini Ratha, “Computer Vision Algorithms on Reconfigurable Logic Arrays”, 1996 (IBM)
24. Chitra Dorai, “Representation and Recognition of 3-D Objects with Free-Form Surfaces”, 1996 (IBM)
25. Sharathchandra Pankanti, “Integration of Vision Modules”, 1995 (IBM)
26. Marie-Pierre Dubuisson, “Segmentation and Matching of Vehicles from Complex Color Outdoor Scenes”, 1995 (Siemens Corporate Research)

27. Jianchang Mao, "Design and Analysis of Neural Networks for Pattern Recognition", 1994 (Microsoft)
28. Hans Dulimarta, "Client Server Control Architecture for Robot Navigation", 1994 (Grand Valley State University)
29. Timothy S. Newman, "Experiments in CAD-Based Inspection", 1993 (University of Alabama, Huntsville)
30. Sateesha G. Nadabar, "Markov Random Field Models in Computer Vision", 1992 (Cognex)
31. Narayan S. Raja, "Parts Based 3D Object Recognition", 1992 (University of Hawaii)
32. Farshid Farrokhnia, "Multi Channel Filtering Techniques for Texture Segmentation and Surface Quality Inspection", 1990 (GE Medical Systems)
33. Patrick Flynn, "CAD Based Computer Vision: Modeling and Recognition Strategies", 1990 (University of Notre Dame)
34. Jezching Ton, "A Knowledge Based Approach to Landsat Image Interpretation", 1989 (Sync Sort)
35. Richard Hoffman, "Object Recognition From Range Images", 1986 (Northrop Grumman)
36. James Coggins, "A Framework for Texture Analysis Based on Spatial Filtering", 1982 (BAE Systems)
37. Stephen Smith, "Structure of Multidimensional Patterns", 1982 (Intel)
38. George Cross, "Markov Models of Texture", 1980 (Infotech Systems)

M.S. STUDENTS

1. Steve Krawczyk, "Online signature and voice for Tablet PC", 2005
2. Karthik Nandakumar, "Multibiometrics", 2005
3. Umar Farooq, "Face Detection and Recognition", 1998
4. Yatin Kulkarni, "Personal Identification Using Speech, Face and Fingerprints", 1998
5. Yong Hong Li, "On-line Text Clustering and Classification", 1998
6. Prasun Sinha, "Cursive Script Postal Address Recognition", 1997
7. Aditya Vailaya, "A Hierarchical System for Efficient Image Retrieval", 1996
8. Scott Connell, "A Comparison of Hidden Markov Model Features for the Recognition of Cursive Handwriting", 1996
9. Jonathan D. Courtney, "Mobile Robot Localization Using Pattern Classification Techniques", 1993
10. Marie-Pierre Dubuisson, "Multi-Sensor Fusion for Nondestructive Inspection of Fiber Reinforced Composite Structures", 1991
11. David Gift, "Three Dimensional Reconstruction of Backscattered Ultrasound Data", 1980
12. Chung Pin Chi, "Necessary and Sufficient Conditions for Conditional and Unconditional Independence", 1978
13. Kevin Markle, "Assembly Line Mold Scheduling", 1977