

Curriculum Vita
Yuan-Fang Wang, Ph.D., Professor

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Professional Expertise

Computer vision, Medical image analysis, Computer graphics, Machine learning, Image and video libraries, and Bioinformatics,

Experience

DURATION	EMPLOYER	POSITION
1999-	Department of Computer Science, University of California, Santa Barbara	Professor
1998	LG Research Center of America, Princeton Junction, NJ	Faculty Consultant (Resident)
1993 - 1999	Department of Computer Science, University of California, Santa Barbara	Associate Professor
1987 - 1993	Department of Computer Science, University of California, Santa Barbara	Assistant Professor
1985- 1987	Computer and Vision Research Center, University of Texas at Austin	Graduate Research Assistant
1982 - 1985	Laboratory for Image and Signal Analysis, University of Texas at Austin	Graduate Research Assistant
1981 - 1982	Department of Electrical and Computer Engineering, University of Texas at Austin	Graduate Teaching Assistant

Education

DATE	UNIVERSITY	SPECIALIZATION	DEGREE
1981	National Taiwan University	Electrical Engineering	B.S
1983	University of Texas at Austin	Electrical and Computer Engineering	M.S
1987	University of Texas at Austin	Electrical and Computer Engineering	Ph.D

Thesis Students Supervised

NAME	DEGREE	THESIS TITTLE	DATE
Pandey, Arvind	M.S.	<i>A Study on Using Structured Lighting to Analyze Time Varying Image Sequences</i>	July, 1989
Cheng, David I.	M.S.	<i>3D Shape Construction and Recognition by Fusing Intensity and Structured Lighting</i>	June, 1990
Delucia, Dante	M.S.	<i>The Vision Workbench</i>	June, 1990
Karandikar, Nitin	M.S.	<i>Analysis of Video Image Sequences Using Point and Line Correspondences</i>	July, 1990
Huynh, Duong Le	M.S.	<i>PIX: A PHIGS Interface to X</i>	September, 1991
Yang, Simon	M.S.	<i>Error Analysis of 3D Model Construction and Recognition from Structured Lighting</i>	September, 1991
Southard, Jonathan	M.S.	<i>An Object-Oriented Software Architecture for Photorealistic Rendering</i>	September, 1992
Lee, Jeng-Feng	Ph.D.	<i>A Physically-Based Scheme for 3D Surface Reconstruction, Representation, and Recognition</i>	June, 1993
Roy, Indrajit	M.S.	<i>Near Real-Time Physically-Based Animation of Articulated Rigid Bodies</i>	July, 1993
Rhodes, Matthew	M.S.	<i>WEB: A Computer Simulation of the Web-Creation Process of the Garden Cross Spider</i>	February, 1995
Zhang, Henry	M.S.	<i>Study of a Novel Adaptive Vision Algorithm</i>	June, 1995
Lee, CheolWhan	Ph.D.	<i>Scheduling for Parallel Computer Vision and Image Processing Operation</i>	March, 1996
Wu, Mark	M.S.	<i>3D Shape and Motion Analysis from Image Blur and Smear: A Unified Approach</i>	June, 1997
Xiong, Pan	M.S.	<i>Study of a Novel Genetic Algorithm with a Perturbation Operator</i>	June, 1997
DeCastro, Alex	M.S.	<i>Web-based Collaborative 3D Modeling</i>	December, 1998
Chade-Meng, Tan	M.S.	<i>Finding and Using High Quality Word-Pairs for Enhanced Text Categorization</i>	June, 2000
Krushner, Doug	M.S.	<i>Bion: An Implantable Neural Stimulation Device</i>	June, 2002

NAME	DEGREE	THESIS TITTLE	DATE
Alferez, Ronald	Ph.D.	<i>Object Recognition using Local Invariants and Global Models</i>	August, 2002
Koppel, Dan	M.S.	<i>Viewing Enhancement in Video-Endoscopy</i>	December, 2002
Can, Tolga	M.S.	<i>Fast Protein Visualization Using Java3D</i>	December, 2003
Can, Tolga	Ph.D.	<i>Efficient and Automated Analysis of Protein Structures</i>	August, 2004
Koppel, Dan	Ph.D.	<i>The Use of Computer Vision Algorithms and Deformable Modeling to Improve the Endoscopic-Video Interface</i>	October, 2006
Chao-I, Chen	Ph.D.	-	August, 2008 (expected)
Changmin, Tsai	Ph.D.	-	August, 2008 (expected)
Dusty, Sargent	Ph.D.	-	August, 2008 (expected)
Yi, Gong	Ph.D.	-	August, 2010 (expected)

Grants and Awards

DATE	PROJECT	SOURCE	AMOUNT	ROLE
1987	<i>Faculty Initiation Equipment Grant</i>	College of Engineering, UCSB	\$65,000	PI
1988–1989	<i>Analysis of Time Varying Image Sequences Using Active Sensing</i>	Faculty Senate, UCSB	\$5,500	PI
1989–1990	<i>A New Paradigm for 3D Scene Analysis Using Active Sensing</i>	Faculty Senate, UCSB	\$2,000	PI
1989–1991	<i>Integrated Analysis of Intensity and Structured Light Images for Scene Interpretation</i>	National Science Foundation (Research Initiation Award)	\$60,000	PI
1992	<i>3D Shape Recognition using Intrinsic Surface Properties</i>	Regents' Junior Faculty Fellowship Award, University of California	\$5,000	PI
1993–1998	<i>An Infrastructure Facility for Parallel Processing Research</i>	National Science Foundation	\$1,050,000	Co-PI
1993–1994	<i>Image Analysis for Automated Robotic Tracking in Endoscopic Surgery</i>	California MICRO program and Computer Motion Inc.	\$18,000	PI
1993–1994	<i>Research on Active Object Recognition</i>	Faculty Senate, UCSB	\$6,000	PI
1994–1996	<i>Implementing and Applying a Modeling and Database System in Support of EOS Scale Earth Science</i>	NASA	\$992,215	Co-PI
1994–1998	<i>The Alexandria Digital Library Project: Towards a Distributed Digital Library with Comprehensive Services for Images and Spatially-Referenced Information</i>	NSF/NASA/ARPA	\$4,000,000	Co-PI
1995–1996	<i>LLNL Oil Well Log Imaging Project</i>	Lawrence Livermore National Labs	\$100,000	Co-PI
1996–1997	<i>A Project on Wafer Inspection, Defect Analysis, and Stereo Metrology,</i>	Electrogas Inc., San Jose, CA	\$43,000	PI
1999–2004	<i>DLI Phase 2: The Alexandria Digital Earth Prototype</i>	NSF/NASA/ARPA	\$5,000,000	Co-PI
2000-2001	<i>Image Analysis, Rectification, and Re-rendering in Endoscopy Surgery,</i>	UC Micro and Karl-Storz Imaging, Inc., Goleta, CA	\$54,000	Co-PI

DATE	PROJECT	SOURCE	AMOUNT	ROLE
2000-2001	<i>Sticky Notes: A Tool for Collaboration,</i>	Center for Information Technology and Society, UCSB	\$9,985	Co-PI
2000-2003	<i>Invariant, Intra-Class Retrieval in Digital Image Databases</i>	National Science Foundation	\$210,000	PI
2000-2005	<i>CISE Research Infrastructure: Digital Campus: Scalable Information on a Campus-Wide Wireless Network,</i>	National Science Foundation	\$1,000,000	Co-PI
2001-2002	<i>Enhancing Image Interpretation and Visual Feedback in Video-Endoscopy,</i>	UC Micro Program and Karl-Storz Imaging, Inc., Goleta, CA	\$54,000	PI
2002-2003	<i>Viewing Enhancement in Video-Endoscopy,</i>	UC Micro Program and Karl-Storz Imaging, Inc., Goleta, CA	\$54,000	Co-PI
2004	<i>Multi-Modal, Multi-Dimensional Biometry Systems</i>	AuguSense Corp., Cupertino, CA	\$84,000	Co-PI
2005	<i>Multi-Modal, Multi-Dimensional Biometry Systems (continuation grant)</i>	AuguSense Corp., Cupertino, CA	\$56,000	Co-PI
2005	<i>Multi-Modal, Multi-Dimensional Biometry Systems (continuation grant)</i>	AuguSense Corp., Cupertino, CA	\$36,000	Co-PI
2004-2005	<i>Integration of Advanced Sensor and Sensing Technology</i>	US Navy	\$209,244	Co-PI
2005	<i>Multi-Modal, Multi-Dimensional Biometry Systems (continuation grant)</i>	AuguSense Corp., Cupertino, CA	\$30,000	PI
2006	<i>Multi-Modal, Multi-Dimensional Biometry Systems (continuation grant)</i>	AuguSense Corp., Cupertino, CA	\$28,000	PI
2006	<i>Toward Automated Construction and Animation of 3D Colon Models for Computer-Assisted Diagnosis in Colonoscopy</i>	US Army Medical Research and Material Command	\$69,013	PI
2006	<i>Toward Automated Construction and Animation of 3D Colon Models for Computer-Assisted Diagnosis in Colonoscopy (continuation grant)</i>	US Army Medical Research and Material Command	\$57,262	PI

DATE	PROJECT	SOURCE	AMOUNT	ROLE
2006-2007	<i>Toward Automated Construction and Animation of 3D Colon Models for Computer-Assisted Diagnosis in Colonoscopy (continuation grant)</i>	US Army Medical Research and Material Command	\$100,302	PI
2007	<i>Real-time Stereo Display for Microscopic Image Visualization</i>	TrueVision Systems, Santa Barbara, CA	\$5,250	PI
2007	<i>Real-time Stereo Display for Microscopic Image Visualization (continuation grant)</i>	TrueVision Systems, Santa Barbara, CA	\$10,948	PI
2007	<i>Real-time Stereo Display for Microscopic Image Visualization (continuation grant)</i>	TrueVision Systems, Santa Barbara, CA	\$9,868	PI
2007-2008	<i>Toward Automated Construction and Animation of 3D Colon Models for Computer-Assisted Diagnosis in Colonoscopy (continuation grant)</i>	US Army Medical Research and Material Command	\$149,111	PI

Recent Consulting Engagement and Research Collaboration

DATE	COMPANY	BUSINESS FOCUS
1993-1995	Computer Motion Inc., Goleta, CA	Specialized in advanced robots and control systems for medical applications (Computer Motion has recently merged with Intuitive Surgical)
1997-1998	Electroglas Inc., San Jose, CA	Design and manufacture wafer probing equipment to help major semiconductor manufacturers to maximize the overall efficiency of their wafer and device testing processes
1998	LG Research Center of USA, Princeton Junction, NJ	Engaged in many aspects of research in video analysis, compression, and delivery, the USA research center of the Korea Electronics giant LG (LG Research Center is now Triveni Digital)
2003-2004	InTouch Health Inc., Goleta, CA	Pioneers the use of remote presence in healthcare and develops proprietary communications and mobile robotic platforms for healthcare delivery
2000-2003	Karl-Storz Imaging Inc., Goleta, CA	Develops and manufactures endoscopic instrumentation for biomedical research, industrial, and veterinary markets
2004-	Proximex Corp., Cupertino, CA	Researches advanced, accurate, and scalable physical security software systems by integrating key technologies from multi-model biometrics, video surveillance, and systems management
2004-	Al Mann Foundation, Valencia, CA	Conducts medical research to improve the quality of life of people suffering from debilitating medical disabilities by developing innovative bionic solutions
2005	Toyon Research Corp., Goleta, CA	Engages in applied research and technical analysis, modeling, and simulation of sensors and weapon systems
2005	Ask Jeeves Inc., Oakland, CA	As the 7th largest global web property, Ask Jeeves, Inc., delivers world-class information retrieval products through a diverse portfolio of Web sites, portals, and downloadable applications
2006-	STI Medical Systems, Honolulu, HI	Is a world leader in developing advanced optical diagnostic imaging technology for cancer detection
2007-	TrueVision Systems, Santa Barbara, CA	Pioneers real-time 3D high-definition vision system for microsurgery and hospital teaching

Recent Professional Appointments

YEAR	POSITION	ORGANIZATION/MEETING
1998-2001	Associate Editor	IEEE Transactions on Pattern Analysis and Machine Intelligence
1998	Program Co-Chair	IEEE Computer Society Conference on Computer Vision and Pattern Recognition
2000-	Associate editor	Pattern Recognition journal
2003	Panelist	NSF Review Panel
2003	Program committee	SPIE Conference on Electronic Imaging and Multimedia Technology, Photonics Asia
2003	Co-Chair	The First ACM International Workshop on Video Surveillance, Berkeley, CA
2004	Co-Chair	The Second ACM International Workshop on Video Surveillance and Sensor Networks, New York, NY
2004	Program committee	Articulated and Nonrigid Motion, New York, NY
2004	Program committee	IEEE International Conference on Multimedia and Expo, Taipei, Taiwan
2004	Program committee	SPIE Conference on Electronic Imaging and Multimedia Technology, Photonics Asia
2004	Session chair	IEEE International Conference on Multimedia and Expo, Taipei, Taiwan
2004	Guest editor	Special Issue on Video Surveillance, ACM Multimedia Systems Journal
2005	Co-Chair	The Third ACM International Workshop on Video Surveillance and Sensor Networks, New York, NY
2007	Program committee	International Conference on Computer Vision, Rio de Janeiro, Brazil
2007	Program committee	IEEE Computer Society Conference on Computer Vision and Pattern Recognition, Minneapolis, MN
2007	Program committee	IEEE International Conference on Multimedia and Expo, Beijing, China
2008	Program committee	European Conference on Computer Vision, Marseilles, France
2008	Program committee	IEEE Computer Society Conference on Computer Vision and Pattern Recognition, Anchorage, AL

Recent Conference Lectures/Demos/Invited Talks

MONTH/YEAR	TITLE	MEETING/PLACE
February 2002	<i>A Collaborative Environment for Protein Visualization</i>	San Diego SuperComputing Center, San Diego, CA
July 2003	<i>Invariant Feature Extraction and Biased Statistical Inference for Video Surveillance</i>	IEEE International Conference on Advanced Video and Signal-based Surveillance, Miami, FL
August 2003	<i>An Overview of Some Current Research at the Computer Vision Laboratory at UCSB</i>	Academia Sinica, Taipei, Taiwan
August 2003	<i>Multi-Camera Video Surveillance Systems</i>	Photon-Electronics Research Center, Industrial Technology Research Institute, Tsinchu, Taiwan
August 2003	<i>Biolab: A Bioinformatics Workbench</i>	Biomedical Research Center, Industrial Technology Research Institute, Tsinchu, Taiwan
September 2003	<i>BioLab: A Bioinformatics Workbench</i>	San Diego SuperComputing Center, San Diego, CA
September 2003	<i>Video Surveillance with Distributed Camera Networks</i>	NSF Information and Data Management Workshop Seattle, WA
November 2003	<i>Multi-Camera Spatio-Temporal Fusion and Biased Sequence-Data Learning for Security Surveillance</i>	ACM Multimedia Conference, Berkeley, CA
December 2003	<i>Toward Robust and Real-Time Event Detection and Recognition for Video Surveillance</i>	Photon-Electronics Research Center, Industrial Technology Research Institute, Tsinchu, Taiwan
December 2003	<i>Real-Time Multi-Person Tracking in Video Surveillance</i>	Pacific Rim Multimedia Conference, Singapore
December 2003	<i>An Overview of Some Current Research at the Computer Vision Laboratory at UCSB</i>	National University of Singapore, Singapore

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April 2004	<i>Distributed Data Fusion and Mining</i>	SPIE Defense and Security Symposium, Orlando, FL
April 2004	<i>An Anatomy of a Video Surveillance System</i>	University of Central Florida, Orlando, FL
April 2004	<i>An Anatomy of a Video Surveillance System</i>	University of South Florida, Tampa, FL
April 2004	<i>Image-Based Rendering and Modeling in Video-Endoscopy</i>	IEEE International Symposium on Biomedical Imaging, Arlington, VA
April 2004	<i>Toward Real-Time, Physically-Correct Soft Tissue Behavior Simulation</i>	IEEE International Symposium on Biomedical Imaging, Arlington, VA
May 2004	<i>Image Interpretation in Video Surveillance</i>	Proximex Corp., Cupertino, CA
June 2004	<i>Human Activity Detection and Recognition for Video Surveillance</i>	IEEE International Conference on Multimedia and Expo, Taipei, Taiwan
June 2004	<i>SSD Tracking Using Dynamic Template and Log-Polar Transform</i>	IEEE International Conference on Multimedia and Expo, Taipei, Taiwan
June 2004	<i>Distributed Data Fusion and Mining</i>	National Taiwan University, Taipei, Taiwan
July 2004	<i>Biolab: A Bioinformatics Workbench (and More)</i>	Academia Sinica, Taipei, Taiwan
July 2004	<i>Visual Feedback Enhancement in Video Endoscopy</i>	National Taiwan University, Taipei, Taiwan
July 2004	<i>Selective Focus-of-Attention using Master-Slave Cameras for Video Surveillance</i>	Proximex Corp., Cupertino, CA
September 2004	<i>Selective Video Zooming and Analysis Using Master-Slave Cameras for Face Detection, Tracking, Modeling and Recognition</i>	Proximex Corp., Cupertino, CA
January 2005	<i>Robust and Real-Time Image Stabilization and Rectification</i>	Workshop on Applications of Computer Vision, Breckenridge, CO
March 2005	<i>An Overview of Some Current Research at the Computer Vision Laboratory at UCSB</i>	NEC Research Meeting, Santa Barbara, CA
October 2005	<i>VSSN Workshop Planning and Future</i>	ACM Multimedia Conference, New York NY

MONTH/YEAR	TITLE	MEETING/PLACE
June 2005	<i>Multi-Camera Tracking Frameworks</i>	Proximex Corp., Cupertino, CA
August 2005	<i>Web Image Quality Assurance and Duplicate Detection</i>	Ask Jeeves, Pistataway, New Jersey
September 2005	<i>Robust and Real-Time Computer Assisted Image Interpretation, Distributed Video Data Fusion and Mining</i>	NPS-LLNL-UCSB Workshop, Monterey, CA
November 2005	<i>Toward Robust and Real-time Multi-camera Video Surveillance in the Real World</i>	Academia Sinica, Taipei, Taiwan
November 2005	<i>A Video Analysis Framework for Soft Biometry Security Surveillance</i>	ACM Workshop on Visual Surveillance and Sensor Networks, Singapore
November 2005	<i>Toward Robust and Real-time Multi-camera Video Surveillance in the Real World</i>	Photon-Electronics Research Center, Industrial Technology Research Institute, Tsinchu, Taiwan
November 2005	<i>Toward Robust and Real-time Multi-camera Video Surveillance in the Real World</i>	National Taiwan University, Taipei, Taiwan
February 2006	<i>Modeling the Structure and Appearance of Objects from Video</i>	STI Medical Systems, Honolulu, HI
February 2007	<i>Structure and Motion Analysis from Video</i>	Naval Postgraduate School, Monterey, CA

Cumulative List of Publications

#	YEAR	TITLE and AUTHORS	PUBLISHER	CATEGORY
1	1984	Matching Three-Dimensional Objects Using Silhouettes (with M. J. Magee, and J. K. Aggarwal)	<i>IEEE Transactions on PAMI</i> , Vol. PAMI-6, No. 4, pp. 513-518	Article
2	1984	Three-Dimensional Volumetric Matching Using Silhouettes (with M. J. Magee and J. K. Aggarwal)	<i>Proceedings of the International Conference on Computer, Systems, and Signal Processing</i> , Bangalore, India	Referred Conference Proceedings
3	1985	Construction of Surface Representation from 3-D Volumetric Scene Description (with J. K. Aggarwal)	<i>Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition</i> , San Francisco, CA, pp. 130-135	Referred Conference Proceedings
4	1985	Inferring Local Surface Orientation with the Aid of Grid Coding (with A. Mitiche and J. K. Aggarwal)	<i>Proceedings of the IEEE Computer Society Third Workshop on Computer Vision: Representation and Control</i> , Bellaire, MI, pp. 96-104	Referred Workshop Proceedings
5	1986	Surface Reconstruction and Representation of 3-D Scenes (with J. K. Aggarwal)	<i>Pattern Recognition</i> , Vol. 19, No. 3, pp. 197-207	Article
6	1986	Structure and Motion Computation from Point and Line Correspondences in Images (with J. K. Aggarwal)	<i>Advances in Image Processing and Pattern Recognition</i> , edited by V. Cappellini and R. Marconi., Elsevier Science Publishers B. V., North-Holland, pp. 171-178	Book Chapter
7	1987	Computation of Surface Orientation and Structure of Objects Using Grid Coding (with A. Mitiche and J. K. Aggarwal)	<i>IEEE Transactions on PAMI</i> , Vol. PAMI-9, No. 1, pp. 129-137	Article
8	1987	Experiments in Computing Optical Flow with the Gradient-Based, Multi-constraint Method (with A. Mitiche, and J. K. Aggarwal)	<i>Pattern Recognition</i> , Vol. 20, No. 2, pp. 173-179	Article
9	1987	On Modeling 3-D Objects Using Multiple Sensory Data (with J. K. Aggarwal)	<i>Proceedings of the IEEE International Conference on Robotics and Automation</i> , Vol. 2, Raleigh, NC, pp. 1098-1103	Referred Conference Proceedings
10	1987	Analysis of a Sequence of Images Using Point and Line Correspondences (with J. K. Aggarwal)	<i>Proceedings of the IEEE International Conference on Robotics and Automation</i> , Vol. 3, Raleigh, NC, pp. 1275-1280	Referred Conference Proceedings

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11	1987	3-D Object Description from Stripe-Coding and Multiple Views (with J. K. Aggarwal)	<i>Proceedings of the 5th Scandinavian Conference on Image Analysis</i> , Stockholm, Sweden, pp. 669-682	Referred Conference Proceedings
12	1987	Integration of Active and Passive Sensing Techniques for Representing Three-Dimensional Objects	<i>Technical report TR 87-1-33</i> , Computer and Vision Research Center, The University of Texas at Austin	Technical Report
13	1988	Geometric Modeling Using Active Sensing—an Overview (with J. K. Aggarwal)	<i>IEEE Control Systems Magazine</i> , Vol. 3, No. 2, pp. 7-13	Article
14	1988	Inference of Object Surface Structure from Structured Lighting—an Overview (with J. K. Aggarwal)	<i>Machine Vision Algorithms, Architectures, and Systems</i> , edited by Herbert Freeman, Academic Press, San Diego, CA, pp. 193-220	Book Chapter
15	1988	Geometric Modeling Using Both Active and Passive Sensing (with J. K. Aggarwal)	<i>Proceedings of the SPIE Sensor Fusion Workshop: Spatial Reasoning and Scene Interpretation</i> , Cambridge, MA, pp. 12-19	Referred Conference Proceedings
16	1989	Design and Implementation of Large Spatial Databases (with A. Buckmann, O. Gunther, and T. R. Smith (eds))	<i>Lecture Notes in Computer Science 409</i> , Proceedings of the First Symposium SSD, Springer-Verlag, Berlin	Book
17	1989	Integration of Active and Passive Sensing Techniques for Representing 3-D Objects (with J. K. Aggarwal)	<i>IEEE Transactions on Robotics and Automation</i> , Vol. 5, No. 4, pp. 460-471	Article
18	1989	On the Computation of Intrinsic Surface Properties with Structured Lighting	<i>Proceedings of the SPIE Conference on Applications of Artificial Intelligence VII</i> , Orlando, Florida, pp. 321-332	Referred Conference Proceedings
19	1989	A New Method for Computing Intrinsic Surface Properties (with P. Liang)	<i>Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition</i> , San Diego, CA, pp. 235-240	Referred Conference Proceedings
20	1989	Interpretation of 3-D Structure and Motion Using Structured Lighting (with Arvind Pandey)	<i>Proceedings of the IEEE Workshop on Interpretation of 3-D Scenes</i> , Austin, TX, pp. 84-90	Referred Workshop Proceedings

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21	1990	A New Method for Edge Detection and Localization (with Jeng-Feng Lee and P. Liang)	<i>Proceedings of the SPIE Conference on Applications of Artificial Intelligence VIII</i> , Orlando, Florida, pp. 524-535	Referred Conference Proceedings
22	1990	A Surface Reconstruction Model Using Deformable Templates (with Jih-Fang Wang)	<i>Proceedings of the SPIE Sensor Fusion Conference III</i> , Boston, MA	Referred Conference Proceedings
23	1990	Surface Reconstruction Using Deformable Models With Interior and Boundary Constraints (with Jih-Fang Wang)	<i>Proceedings of the third International Conference on Computer Vision</i> , Osaka, Japan, pp. 300-303	Referred Conference Proceedings
24	1991	Characterizing 3-D Surface Structures from Visual Images	<i>IEEE Transactions on PAMI</i> , Vol. 13, pp. 52-60	Article
25	1991	Sensor Data Fusion in Robotics Systems (with J. K. Aggarwal)	<i>Advances in Control and Dynamic Systems</i> , edited by C. T. Leondes, Academic Press, pp. 435-462	Book Chapter
26	1991	A Study on Using Structured Lighting to Analyze Time Varying Image Sequences (with Arvind Pandey)	<i>Pattern Recognition</i> , Vol. 24, No. 8, pp. 723-738	Article
27	1991	Analysis of Video Image Sequences Using Point and Line Correspondences (with Nitin Karandikar and J. K. Aggarwal)	<i>Pattern Recognition</i> , Vol. 24, No. 11, pp. 1065-1084	Article
28	1991	A Unification Scheme for 3-D Surface Reconstruction Using Physically-Based Models (with Jeng-Feng Lee and Jih-Fang Wang)	<i>International Journal of Imaging Systems and Technology</i> , Vol. 3, pp. 279-299	Article
29	1991	Surface Modeling Using Deformable Templates (with Jih-Fang Wang)	<i>International Journal of Imaging Systems and Technology</i> , Vol. 3, pp. 300-310	Article
30	1991	Physically-Based Surface Modeling Using Flexible Wire Frames (with Jih-Fang Wang)	<i>Proceedings of the Hawaii International Conference on System Science-24</i> , Kailua-Kona, Hawaii, pp. 661-670	Referred Conference Proceedings

#	YEAR	TITLE and AUTHORS	PUBLISHER	CATEGORY
31	1991	A New Method for Sensor Data Fusion in Machine Vision	<i>Proceedings of the SPIE Conference on Geometric Methods in Computer Vision</i> , San Diego, CA, pp. 31-42	Referred Conference Proceedings
32	1991	Fusing Intensity and Structured Lighting for Modeling Cluttered 3-D Scenes (with David I. Cheng)	<i>Proceedings of the IEEE International Conference on Systems, Man & Cybernetics</i> , Charlottesville, Virginia, pp. 825-830	Referred Conference Proceedings
33	1991	An Integrated Approach for 3-D Surface Reconstruction Using Deformable Models (with Jeng-Feng Lee and Jih-Fang Wang)	<i>Proceedings of the IEEE International Conference on Systems, Man & Cybernetics</i> , Charlottesville, Virginia, pp. 841-846	Referred Conference Proceedings
34	1991	PIX: A PHIGS Integration into X (with D. L. Huynh, M. Jensen, R. Larsen, J. Southard, Y. Wang, and A. Mangaser)	<i>Technical report TR 91-17</i> , Department of Computer Science, University of California, Santa Barbara	Technical Report
35	1992	Orientation-Based Unique Representation for Planar Curves and Shapes (with P. Liang and J. F. Lee)	<i>Visual Computer</i> , Vol. 8, pp. 191-199	Article
36	1992	Sensors and Sensor Fusion (with J. K. Aggarwal)	<i>Encyclopedia of Artificial Intelligence, 2nd edition</i> , edited by Stuart C. Shapiro, John Wiley & Sons, Inc., New York, Vol. 2, pp. 1511-1526	Book Chapter
37	1992	Surface Reconstruction Using Deformable Models With Interior and Boundary Constraints (with Jih-Fang Wang)	<i>IEEE Transactions on PAMI</i> . Vol. 14, No. 5, pp. 572-578	Article
38	1992	3-D Shape Construction and Recognition by Fusing Intensity and Structured Lighting (with David I. Cheng)	<i>Pattern Recognition</i> . Vol. 25, No. 12, pp. 1411-1425	Article
39	1992	PIX: An Object-Oriented Network Graphics Environment (with D. L. Huynh, M. Jensen, R. Larsen, J. Southard, Y. Wang, and A. Mangaser)	<i>Proceedings of the CG International 92: Visual Computing — Integrating Computer Graphics with Computer Vision</i> , Tokyo, Japan, pp. 917-936	Referred Conference Proceedings
40	1992	On 3D Model Construction by Fusing Heterogeneous Sensor Data (with Z. Yang and J. F. Lee)	<i>Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Raleigh, NC, pp. 1071-1078	Referred Conference Proceedings

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41	1993	PIX: An Object-Oriented Network Graphics Environment (with D. L. Huynh, M. Jensen, R. Larsen, J. Southard, Y. Wang, and A. Mangaser)	<i>International Journal of Computers & Graphics</i> . Vol. 17, No. 3, pp. 295-304	Article
42	1994	On 3D Model Construction by Fusing Heterogeneous Sensor Data (with Jih-Fang Wang)	<i>CVGIP: Image Understanding</i> . Vol. 60, No. 2, pp. 210-229	Article
43	1994	A Speech-Directed Multi-Modal Man-Machine Interface for Robotically Enhanced Surgery (with D. R. Uecker, C. Lee, and Yulun Wang)	<i>Proceedings of the first International Symposium on Medical Robotics and Computer Assisted Surgery</i> , Pittsburgh, PA, pp. 176-183	Referred Conference Proceedings
44	1994	Image Analysis for Automated Tracking in Robot-Assisted Endoscopic Surgery (with C. Lee, D. R. Uecker, and Yulun Wang)	<i>Proceedings of the 12th International Conference on Pattern Recognition</i> , Jerusalem, Israel, pp. 88-92	Referred Conference Proceedings
45	1994	Static Global Scheduling for Optimal Computer Vision and Image Processing Operations on Distributed-Memory Multiprocessors (with C. H. Lee and T. Yang)	<i>Technical Report TRCS 94-23</i> , Department of Computer Science, University of California, Santa Barbara	Technical Report
46	1994	Learning in Eigenspace: Theory and Application (with B. S. Manjunath and S. Chandrasekaran)	<i>Technical Report CIPR 94-17</i> , CIPR, University of California, Santa Barbara	Technical Report
47	1995	Static Global Scheduling for Optimal Computer Vision and Image Processing Operations on Distributed-Memory Multiprocessors (with C. H. Lee and T. Yang)	<i>Proceedings of International Conference on Computer Analysis of Images and Patterns</i> , Prague, Czech Republic, pp. 920-925	Referred Conference Proceedings
48	1995	Partitioning and Scheduling for Parallel Image Processing Operations (with C. H. Lee and T. Yang)	<i>Proceedings of the Seventh IEEE Symposium on Parallel and Distributed Processing</i> , San Antonio, TX, pp. 86-90	Referred Conference Proceedings
49	1995	An Eigenspace Update Algorithm for Image Analysis (with B. S. Manjunath and S. Chandrasekaran)	<i>Proceedings of International Symposium on Computer vision</i> , Miami, FL, pp. 551-556	Referred Conference Proceedings
50	1996	Error Analysis of 3D Shape Construction From Structured Lighting (with Z. Yang)	<i>Pattern Recognition</i> , Vol. 29, No. 2, pp. 189-206	Article

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51	1996	An Eigenspace Update Algorithm for Image Analysis (with S. Chandrasekaran, B. S. Manjunath, J. Winkeler, and H. Zhang)	<i>Technical Report TRCS 96-04</i> , Department of Computer Science, University of California, Santa Barbara	Technical Report
52	1996	Automated Instrument Tracking in Robotically-Assisted Laparoscopic Surgery (with D. R. Uecker, C. Lee, Y. Wang)	<i>Journal of Image Guided Surgery</i>	Article
53	1996	Choreographed Scope Maneuvering in Robotically-Assisted Laparoscopy with Active Vision Guidance (with D. R. Uecker and Y. Wang)	<i>Workshop on Applications of Computer Vision</i> , Saratoga, FL, pp. 187-192	Referred Conference Proceedings
54	1997	A New Framework for Image Invariants using Basis Expansion	<i>Technical Report TRCS 97-02</i> , Department of Computer Science, University of California, Santa Barbara	Technical Report
55	1997	An Eigenspace Update Algorithm for Image Analysis (with S. Chandrasekaran, B. S. Manjunath, J. Winkeler, and H. Zhang)	<i>CVGIP: Graphic Models and Image Processing</i> , Vol. 59, No. 5, pp. 321-332	Article
56	1997	Global Optimization for Mapping Parallel Image Processing Tasks on Distributed Memory Machines (with C. H. Lee, and Tao Yang)	<i>Journal of Parallel and Distributed Processing</i> , Vol. 45, pp. 29-45	Article
57	1998	3D Shape and Motion Analysis from Image Blur and Smear: A Unified Approach (with P. Liang)	<i>International Conference on Computer Vision</i> , Bombay, India, January, pp. 1029-1034	Referred Conference Proceedings
58	1998	Local Scale Controlled Anisotropic Diffusion with Local Noise Estimate for Image Smoothing and Edge Detection (with P. Liang)	<i>International Conference on Computer Vision</i> , Bombay, India, January, 1998, pp. 193-200	Referred Conference Proceedings
59	1998	A Unified Framework for Image-Derived Invariants (with Ronald-Bryan O. Alferez),	<i>3rd Asian Conference on Computer Vision</i> , Hong Kong, January, 1998, pp. 400-407	Referred Conference Proceedings
60	1998	A New Framework for Vision-Enabled and Robotically-Assisted Minimally Invasive Surgery (with D. R. Uecker and Y. Wang)	<i>Computerized Medical Imaging and Graphics</i> Vol. 22, 1998, pp. 429-437	Article

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61	1999	Geometric and Illumination Invariants for Object Recognition (with Ronald Alferez)	<i>IEEE Transactions on PAMI</i> , Vol. 21, pp. 505-536	Article
62	1999	Image Indexing and Retrieval Using Image-Derived, Geometrically and Illumination Invariant Features (with Ronald Alferez)	<i>Proceedings of IEEE International Conference on Multimedia Computing and Systems</i> , Florence, Italy, pp. 177-182	Referred Conference Proceedings
63	1999	Highly Discriminative Invariant Features for Image Matching (with Ronald Alferez)	<i>Proceedings of the Third International Conference On Visual Information Systems</i> , Amsterdam, the Netherlands, pp. 435-442	Referred Conference Proceedings
64	1999	Database Indexing using a Combination of Invariant Shape and Color Descriptions (with Ronald Alferez)	<i>Proceedings of the Second International Conference on Information Fusion</i> , Sunnyvale, CA, pp. 688-695	Referred Conference Proceedings
65	2000	VCME: A Visual Interactive Environment for Computational Modeling Systems (with Y. Chen, A. Saran, and T. Smith)	<i>Encyclopedia of Microcomputers</i> , Vol. 24, 2000, pp. 333-372	Article
66	2001	Invariant, Intra-Class Retrieval in Homogeneous Databases (with Ronald Alferez)	<i>Proceedings of International Conference on Multimedia and Expo</i> Tokyo, Japan, pp. 177-182	Referred Conference Proceedings
67	2001	Automated Image Rectification in Video-Endoscopy (with D. Koppel and Hua Lee)	<i>Proceedings of the International Conference on Medical Image Computing and Computer-Assisted Intervention</i> Utrecht, the Netherlands, pp. 1412-1414	Referred Conference Proceedings
68	2001	The Use of Bigrams to Enhance Text Categorization (with C. M. Tan and C. D. Lee)	<i>International Journal of Information Processing & Management</i> , pp. 529-546	Article
69	2001	A Distributed Protein Visualization Application (with T. Can, Y. J. Wang, and J. Su)	<i>Proceedings of the third International Conference on Bioinformatics</i> , Atlanta, GA	Software demo
70	2002	Improving Text Categorization with High Quality Bigrams, (with Chan-Do Lee and Chade-Meng Tan)	<i>The KIPS Transactions: Part B</i> Vol. 9-B, No. 4, 2002, pp. 415-420	Article

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71	2002	Viewing Enhancement in Video-Endoscopy (with D. Koppel and Hua Lee)	<i>Proceedings of the Workshop on Applications Computer Vision</i> , Orlando, FL, pp. 304-307	Referred Conference Proceedings
72	2003	Fast Protein Visualization using Java3D (with T. Can, Y. Wang, and J. Su)	<i>Proceedings of the Eighteenth Annual ACM Symposium on Applied Computing</i> , Melbourne, FL, pp. 88-95	Referred Conference Proceedings
73	2003	Multi-camera Spatio-temporal Fusion and Biased Sequence-data Learning for Security Surveillance (with G. Wu, Y. Wu, L. Jiao and E. Y. Chang)	<i>Proceedings of ACM Multimedia Conference</i> , Berkeley, CA, pp. 528-538	Referred Conference Proceedings
74	2003	Real-Time Multi-person Tracking in Video Surveillance (with K. Wu, J. Long and D. Han)	<i>Proceedings of the Pacific Rim Multimedia Conference</i> , Singapore, pp. 2C1 1 - 5	Referred Conference Proceedings
75	2003	Invariant Feature Extraction and Biased Statistical Inference for Video Surveillance (with Y. Wu, L. Jiao, G. Wu, and E. Chang)	<i>Proceedings of the IEEE International Conference on Advanced Video and Signal-based Surveillance</i> , Miami, FL, pp. 284-289	Referred Conference Proceedings
76	2003	Fast Protein Visualization using Java3D, (with T. Can, Y. J. Wang, and J. Su)	<i>Bioinformatics</i> , Vol. 19, pp. 1-10	Article
77	2003	CTSS: A Robust and Efficient Method for Protein Structure Alignment Based on Local Geometrical and Biological Features (with T. Can)	<i>Proceedings of the IEEE Computer Society Bioinformatics Conference</i> , Stanford, CA, pp. 169-179	Referred Conference Proceedings
78	2003	Personalized Annotation and Information Sharing in Protein Science with Information-Slips (with Y. Wang, T. Can, And J. Su)	<i>Proceedings of the 2nd International Conference on Information and Knowledge Sharing</i> , Phoenix, AZ, pp. 299-304	Referred Conference Proceedings
79	2004	Image-Based Rendering and Modeling in Video-Endoscopy (with D. Koppel and Hua Lee),	<i>Proceedings of the International Symposium on Biomedical Imaging</i> , Arlington, VA, pp. 272-279	Referred Conference Proceedings
80	2004	Toward Real-Time, Physically-Correct Soft Tissue Behavior Simulation, (with Dan Koppel and Shivkumar Chandrasekaren)	<i>Proceedings of the International Symposium on Biomedical Imaging</i> , Arlington, VA, pp. 185-188	Referred Conference Proceedings

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81	2004	ProGreSS: Simultaneous Searching of Protein Databases by Sequence and Structure, (with A. Bhattacharya, T. Can, T. Kahveci and A. K. Singh)	<i>Proceedings of the Pacific Rim Bioinformatics Conference</i> , Hawaii, 2004, pp. 264-175	Referred Conference Proceedings
82	2004	Automated Protein Classification Using Consensus Decision, (with T. Can, O. Camouglu and, A. Singh)	<i>Proceedings of the IEEE Computer Society Bioinformatics Conference</i> , Stanford, CA, pp. 224-235	Referred Conference Proceedings
83	2004	Toward Building a Robust and Intelligent Video Surveillance System: A Case Study, (with E. Y. Chang)	<i>Proceedings of the the IEEE International Conference on Multimedia Systems and Expo</i> , Taipei, Taiwan, pp. 1391-1394	Referred Conference Proceedings
84	2004	The SfinX Video Surveillance System, (with Raju Rangaswami, Zoran Mimitrijevic, Keyle Kakligian and E. Y. Chang)	<i>Proceedings of the IEEE International Conference on Multimedia Systems and Expo</i> , Taipei, Taiwan, pp. 151-160	Referred Conference Proceedings
85	2004	Human Activity Detection and Recognition for Video Surveillance, (with K. Niu, J. Long and D. Han)	<i>Proceedings of the IEEE International Conference on Multimedia Systems and Expo</i> , Taipei, Taiwan, pp. 719-722	Referred Conference Proceedings
86	2004	Distributed Video Data Fusion and Mining, (with Edward Y. Chang and Volkan Rodoplu)	<i>Proceedings of SPIE Defense and Security Symposium</i> , Orland, FL, pp. 222-233	Referred Conference Proceedings
87	2004	Adaptive Stream Resource Management Using Kalman Filter (with Ankur Jain and Edward Chang)	<i>Proceedings of the ACM Sigmod Conference</i> , France, pp. 11-22	Referred Conference Proceedings
88	2004	Protein Structure Alignment and Fast Similarity Search Using Local Shape Signatures, (with T. Can)	<i>Journal of Bioinformatics and Computational Biology</i> , Vol. 2, No. 1, pp. 215-239	Article
89	2005	The Anatomy of A Multi-Camera Video Surveillance System (with L. Jiao, G. Wu, Y. Wu, and E. Y. Chang)	<i>ACM Multimedia System Journal</i> , Vol. 10, pp. 144-163	Article
90	2005	Robust and Real-Time Image Stabilization and Rectification (with D. Koppel and Hua Lee)	<i>Proceedings of the Workshop on Applications of Computer Vision</i> , pp. 350-355	Referred Conference Proceedings

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91	2005	EXTENT: Inferring Image Meta-data from Context and Content (with C.-M. Tsai, A. Qamra, and E. Chang)	<i>Proceedings of International Conference on Multimedia and Expo</i> , pp. 1270-1273	Referred Conference Proceedings
92	2005	An Affine-Invariant Tool for Retrieving Images from Homogeneous Databases (with Ronald Alferez and L. Jiao)	<i>Multimedia Tools and Applications</i> , Vol. 25, pp. 133-159	Article
93	2005	Decision Tree Based Information Integration for Automated Protein Classification (with T. Can, O. Camouglu and A. Singh)	<i>Journal of Bioinformatics and Computational Biology</i> , Vol. 3, June, pp. 717-742,	Article
94	2005	Upper Limb Position Sensing: A Machine Vision Approach (with Dianna Han and Doug Kushner)	<i>Proceedings of 2nd IEEE EMBS Conference on Neural Engineering</i> , pp. 490-493	Referred Conference Proceedings
95	2005	A System for Limb Modeling, Position Sensing and Stimulation Control (with Dianna Han and Doug Kushner)	<i>Proceedings of the 10th Anniversary IFESS Conference</i> , pp. 537-544	Referred Conference Proceedings
96	2005	A Video Analysis Framework for Soft Biometry Security Surveillance (with E. Chang and K. P. Cheng)	<i>Proceedings of the ACM Workshop on Video Surveillance and Sensor Networks</i> , pp. 71-78	Referred Conference Proceedings
97	2006	Using Stationary-Dynamic Camera Assemblies for Wide-area Video Surveillance and Selective Attention (with A. Jain, D. Koppel, and K. Kaligian)	<i>Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition</i> , pp. 537-544	Referred Conference Proceedings
98	2006	Identify Color in Motion in Video Sensor (with G. Wu, D. Koppel, K. S. Goh, T. Tsai, K. Kaligian, and A. Jain)	<i>Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition</i> , pp. 561-569	Referred Conference Proceedings
99	2006	Efficient Molecular Surface Generation Using Level-Set Methods (with T. Can and C.-I. Chen)	<i>Journal of Molecular Graphics and Modeling</i> , Vol. 25, pp. 442-454	Article
100	2007	Bayesian Reasoning for Sensor Group-Queries and Diagnosis (with A. Jain and E. Chang)	<i>Proceedings of Database Systems for Advanced Applications</i> , Bangkok, Thailand	Referred Conference Proceedings

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101	2007	Toward Automated Model Building from Video in Computer Assisted Diagnoses in Colonoscopy (with D. Koppel, C.-I. Chen, Hua Lee, Jia Gu, A. Poirson, and R. Wolters)	<i>Proceedings of the SPIE Medical Imaging Conference, San Diego, CA, pp. L1-L9.</i>	Referred Conference Proceedings