

# Curriculum Vitae

**Christopher M. Brown**  
Computer Science Department  
University of Rochester  
Rochester, NY 14627, USA

December 19, 2011

## 1 Personal

Born: December 8, 1945  
Nationality: United States of America  
1999 Marital Status: Married

## 2 Education

B.A.(cum laude), Philosophy (Linguistics and Mathematics minors), Oberlin College (1967)  
M.S., Information Sciences, University of Chicago (1972)  
Ph.D., Information Sciences, University of Chicago (1972)

## 3 Professional Experience

2008: Program board: VISAPP  
2005: Program board: VISAPP  
2004-3: Program boards: various, I've forgotten.  
2002: Program boards: ICVS (Intelligent Vision Systems), CVPR (Comp. Vision and Patt. Recog.)  
2002: Member NSF Panel for Robotics and Human Augmentation.  
2001: Program boards: Workshop on Developmental Computing, Int. Conf. on Pattern Recognition.  
2000: Program boards: IJCV, ICRA, AAAI, CVPR, IJCAI.  
1999 Co-Organizer, DARPA Workshop on Biologically-Inspired Approaches for Micro Air Vehicles, Institute for Defense Analysis, Alexandria, VA, 21-22 April  
1998 Program Committee Member, *Int'l. Conf. on Computer Vision Systems*

1996-97 Panelist, National Defense Scholarship Selection Committee

1996-00 Co-editor (with G. Sandini), *Videre* (MIT Press; on-line computer vision journal)

1996 Sr. Program Committee Member, *Amer. Assoc. of Artif. Intelligence* Annual Conf.

1995 Program Committee Member, *European Conf. on Computer Vision*

1995-01 Program Committee Member, *Computer Vision and Pattern Recognition Conference*

1995-99 Program Committee Member, *Int'l. Conf. on Computer Vision*

1994-95 Program Board, *Int'l. Joint Conf. on Artificial Intelligence*, August 1995

1993 Co-Organizer (with Roger Bockett), Active Vision Week, Isaac Newton Inst., Cambridge U., July 5-9

1993 Fellow, Isaac Newton Institute, Cambridge U., July - August

1992 Organizer, half-day program on visual learning, DARPA Image Understanding PI Meeting, Snowbird, UT, September 22

1992 Tutorial on Active Vision, *IEEE Int'l. Conf. on Robotics and Automation*, Nice, France, May 11 (with E. Krotkov and J. Crowley)

1992 Program Committee Member, *Computer Vision and Pattern Recognition Conf.*

1991- Professor, Computer Science Dept., U. Rochester

1991 Participated in M. Swain's NSF Active Vision Workshop, U. Chicago, August

1991- Advisory Board, Computer Science Publishing Program, Jones and Bartlett Publishers

1990- Editorial Board, *Computer Vision, Graphics, and Image Processing*

1988-89 Visiting Post (sabbatical leave), Robotics Research Group, Dept. of Engineering Science, Oxford U., U.K.

1989- Reviewer, NSF Presidential Young Investigator awards

1989 NSF Institutional Infrastructure Program Panel, November

1989 Program Committee Member, *Computer Vision and Pattern Recognition Conf.*

1989 Program Committee Member, *IEEE Workshop on 3-D Vision*

1988 Program Committee Member, *20th Interface Symp.*, Reston, VA, May

1987 Program Committee Member, *Computer Architecture for Pattern Analysis and Machine Intelligence* Workshop, Seattle, WA, October

1986-87 Organizer, 1-week computer vision segment of robotics seminar for mathematicians, Institute for Mathematics and its Applications, Minneapolis, MN, August

1986 Invited Speaker, International Centre for Theoretical Physics, Trieste, Italy, College on the Organization of the Brain, October 13-November 7

1986-91 Associate Editor, *IEEE Trans. on Pattern Analysis and Machine Intelligence* (Steven L. Tanimoto, Ed.)

1986- Editorial Board, *Int'l. J. of Computer Vision* (Kanade and Brooks, Eds.)

1985 Program Committee, IEEE Computer Vision and Pattern Recognition Conf.

1984-87 Chairman, Computer Science Department, U. Rochester

1983-84 Secretary, Tech'l. Committee on Image Understanding, Int'l. Assoc. for Pattern Recog'n.

1983-90 Associate Professor, Computer Science Department, U. Rochester  
1983- Member, Cognitive Science Cluster, U. Rochester  
1983 Exec. Secretary, Program Committee, IEEE Computer Vision and Pattern Recognition Conference  
1982 Editorial Board (AI), COMTEX  
1982 Program Committee, American Assoc'n. of Artificial Intelligence  
1981 NSF Small Business Innovation Research Panels, CER Site Visits  
1980 Rapporteur for Communication: NSF Workshop on Robotic Research  
1980-86 NSF Research Initiation Panels (Image Analysis)  
1979-80 Director, PADL-2 Project, Production Automation Project, U. Rochester  
1978-82 NIH Study Sections (Image Analysis)  
1975-82 Assistant Professor, Computer Science Department, U. Rochester  
1975 Visiting Assistant Professor, Computer Science Dept., and Visiting Research Associate, Production Automation Project, U. Rochester  
1974 Report for SRI (Survey of Industrial Robotics Hardware in Europe)  
1972-75 Research Fellow, Dept. Machine Intelligence, U. Edinburgh

## **4 Honors**

2007 Center for Advanced Technology award for New York State Office of Science, Technology and Academic Research: Research with most economic impact over past three years (one of 2 awards among 39 Principal Investigators).  
2006 Graduate Dean's Award for Service on PhD Defenses.  
2001 DAGM Award (Best Paper in German Image Analysis Conference)

## **5 Consulting Experience**

2005-2008 Technical Consultant, PL-eCorp, local Rochester entrepreneur in surveillance business.  
1998 Technical Consultant, "Genetically Programmed Dexterous Manipulator," ONR N00014-98-C-0062  
1998 Visiting Scientist, Xerox Corporation (summer)  
1996-97 Image Understanding Environment Development  
1985 Vision Applications in Industry, Chisholm Institute of Technology, Melbourne, Australia (5-week academic exchange visit)  
1983-84 Consultant (on goal-oriented vision), MIT Draper Labs  
1974 Report for SRI (Survey of Industrial Robotics Hardware in Europe)

## **6 Professional Societies**

1980-81 Member of Cognitive Science Society  
1977 Member of ACM (including SIGART)

## **7 Doctoral Dissertations Supervised**

P. Ardis “Controlling and Evaluating Inpainting with Attentional Models”, 11/09  
B. Hu, “Improving rendering for augmented reality”, 7/05.  
M. Boutell, “Probabilistic and Relational Methods in Scene Classification”, 4/05.  
C. Eveland, “Utilizing visible and infrared video for the fast detection and tracking of faces.”, 1/03  
A. Singhal, “Bayesian evidence combination for region labeling,” 10/01  
M. Van Wie, “Role selection in teams of non-communicating agents,” 5/01  
J.R. Vallino, “Uncalibrated real-time augmented reality,” 8/98  
R. Wisniewski, “A run-time system to support parallel real-time artificial intelligence,” 5/96  
J.G. Schneider, “Robot skill learning through intelligent experimentation,” 2/95  
R.D. Rimey, “Control of selective perception using Bayesian methods,” 12/93  
D.J. Coombs, “Real-time gaze holding in binocular robot vision,” 6/92  
P.B. Chou, “The theory and practice of Bayesian image labeling,” 8/88  
D.B. Sher, “A probabilistic approach to low-level vision,” 10/87  
J. Aloimonos, “Computing intrinsic images,” 5/86  
B.C. Madden, “A theory of spatial acuity,” 5/85  
R.F. Rashid, “Lights: A system for interpretation of moving light displays,” 4/80

## **8 Current PhD Advisees:**

## **9 Post-doctoral advisees**

I. Nwogu, NSF Computing Innovation Fellow, 10/2009- 9/2010  
J. Denzler, “Robotic vision,” 1999-2000  
K. Kutulakos, “Plenoptic image editing,” 1994-97

## **10 Invited Talks**

“Saliency Measures for Image Inpainting Algorithms” (with Paul Ardis), 2009 CEIS Technology Showcase, 12 Feb. 2009.

“Feature Trajectories for Segmentation in Video Applications” (with Paul Ardis), 2007 CEIS Technology Showcase, 7 Feb. 2007.

“MASSES: Material and Spatial Simulated Experimental Scenes” (with Matt Boutell), 2003 Winter Technology Exchange, Center for Electronic Imaging Systems, Rochester, NY, 29 January 2003.

“Optic flow for navigation and obstacle avoidance” (with Jon Schmid), 2003 Winter Technology Exchange, Center for Electronic Imaging Systems, Rochester, NY, 29 January 2003.

“Vision, Spatial Intelligence, and HCI”, Invited presentation, CEIS Emergence Conference, Nov 2002, Rochester NY.

“Single frame image orientation using low-level features” (with Matt Boutell), 2002 Winter Technology Exchange, Center for Electronic Imaging Systems, Rochester, NY, 30 January 2002.

“Visual navigation and obstacle avoidance with optical flow” (with Jon Schmid and Randal Nelson), 2002 Winter Technology Exchange, Center for Electronic Imaging Systems, Rochester, NY, 30 January 2002.

“Future directions and applications of computational development,” NSF-DARPA Workshop on Development and Learning, Michigan State University, East Lansing, 5-7 April 2000.

“Two implementations of automatic convoying,” Dept. of Electrical Engg., U. Coimbra, Portugal, 1 March 1999.

“Segmentation and representation using real-time stereo hardware,” Dept. of Electrical Engg., U. Coimbra, Portugal, 26 February 1999.

“Uncalibrated and haptic augmented reality,” Dept. of Electrical Engg., U. Coimbra, Portugal, 24 February 1999.

“Mobile robotics and augmented surveillance,” Distinguished Lecture Series, Ctr. for Mapping, Ohio State U., Columbus, OH, 13 November 1998.

“Uncalibrated augmented reality,” Radiology Dept. Seminar, Guy’s Hospital, London, December 1998.

“Architectural considerations for vision and action,” Bielefeld Seminar on Vision Architecture, U. Bielefeld, Bielefeld, Germany, 15 December 1997.

“Probabilistic representations for cooperation and navigation,” Schloss Dagstuhl Seminar, Wadern, Saarland, Germany, 8-13 December 1997.

“From visual servoing to plan recognition,” Block Island Workshop on Robotics and Control, Rhode Island, June 1997.

“AI in 2020,” IEEE Workshop on The World of 2020, Rochester Institute of Technology, 12 March 1997.

“Uncalibrated approaches to augmented reality,” Distinguished Lecture Series, U. Toronto, November 1996; *Int’l. Conf. on Pattern Recognition*, Vienna, August-September 1996.

“Augmented surveillance without calibration,” ARPA-PI Meeting, Williamsburg, VA, October 1996.

“Control for and by Computer Vision,” DICTA (Australian Computer Vision Society), Brisbane, Australia, December 1995.

“Control for and by Computer Vision,” Software Technology and Intelligent Systems Symp., Washington, DC, 31 August 1995.

“Current Directions in Computer Vision,” BIK Technical Institute, Northwest Frontier Province, Pakistan, 7 January 1995.

“Vision, motion, and robotics at the University of Rochester,” ARPA Image Understanding Workshop, Monterey, CA, 16 November 1994.

“Learning, Development and Vision,” Cognitive Science Banquet, U. Rochester, 28 April 1994.

“Learning, Vision, and Development,” AAI Fall Symposium-Workshop on Machine Learning in Computer Vision: What, Why, and How; Raleigh, NC, October 1993.

“The Joy of Non-Linearity,” Commencement Address, U. Rochester Mathematics, Statistics, and Computer Science ceremony, June 1993.

“Bayesian Methods in Selective Perception,” SPIE-IEEE Workshop on Intelligent Robotics, Boston, MA, 16 November 1992.

“Machine Learning Techniques for Skilled Navigational Tasks,” DARPA/NSF Workshop on Machine Learning, Harper’s Ferry, WV, 16 October 1992.

“Control of Active Vision with Bayes Nets,” U. Toronto Computer Science Dept., 8 Oct. 1992.

“The Animate Vision Paradigm,” Princeton/Siemens VISION 2000 Symposium, 5 October 1992.

“Control of Active Vision,” DARPA Automatic Target Recognition Conf., George Mason U., 1 October 1992.

“Selective Perception,” Cognitive Science Center, SUNY at Buffalo, 9 September 1992.

“Issues in Selective Perception,” 11th Int’l. Conf. on Pattern Recognition, Den Hague, Netherlands, 30 August 1992.

Active Vision Tutorial (with J. Crowley and E. Krotkov), *Int’l. Conf. on Robotics and Automation*, Nice, France, May 1992.

“Issues in Selective Perception,” AAI Spring Symp. on Control of Selective Perception, Stanford, CA, 25-27 March 1992.

“Image Representations and Eye Movements,” ONR Workshop on Image Representations for Machine and Human Vision, Laguna Beach, CA, 22-23 March 1992.

“Low- and High-Level Animate Vision,” invited talk, Rank Prize Funds, Lake District, United Kingdom, 11 September 1991.

“High, Intermediate, and Low-Level Animate Vision,” invited talk, 7th Scandinavian Image Analysis Conf., Aalborg, Denmark, 13 August 1991.

“Reflexive and Cognitive Gaze Control,” invited talk, 5th Biannual Stockholm Vision Symposium, Rosenon, Sweden, 11 August 1991.

“An Empirical Investigation of Differential Invariants,” invited talk, *DARPA/Esprit Workshop*, Reykjavik, Iceland, March 1991.

“Control of the Rochester Robot,” Rochester Section of the IEEE, Annual Joint Chapters Conf., 13 March 1991.

“Evolution and Revolution in Computer Vision” (with Dana H. Ballard), Office of Naval Research, Washington, DC, 18 December 1990.

“Image Understanding Research at Rochester” (with Randal C. Nelson), DARPA Image Understanding Workshop, Pittsburgh, PA, September 1990.

“Issues in Gaze Control and Vision,” DARPA / Esprit Vision Workshop, Iraklion, Crete, September 1990.

“Gaze Control, Segmentation, and Behaviors,” Rank Prize Fund Mini-Symposium on Neural Representations of 3-D Space, Grasmere, U.K., 25 July 1990.

“Cognition and Control in Computer Vision,” DARPA PI Meeting, Phoenix, AZ, 25-28 Feb. 1990.

“Mathematical and Computational Issues in Geometric Modelling,” Mathematics Dept., Rochester Institute of Technology, March 21, 1979.

“Some Issues and Answers in Geometric Modelling,” Workshop on the Representation of Three Dimensional Objects, U. Pennsylvania, May 1-2, 1979.

“The PADL-2 Project,” 7th NSF Grantees Conference on Production Research and Technology, Cornell U., September 25, 1979.

“Geometric Modelling and the PADL-2 Project,” Rochester Inst. Tech., Fall 1979.

“Multiple Representations of 3-D Geometry,” John Deere Technical Center, Moline, IL, November 15, 1979.

“Structure and Technical Goals of the Production Automation Project,” Lab for Laser Energetics, U. Rochester, January 11, 1980.

“Aspects of Robotic Communication,” NSF Workshop on Robotics Research, Newport, RI, April 17, 1980.

“3-D Geometric Models and Related Algorithms,” Electrical Engineering and Computer Science Departments, McGill U., Montreal, Quebec, April 24, 1980.

“Geometric Modelling and Robotics in the U.S.A.,” U. Edinburgh, May 7, 1980.

“The PADL-2 Project: Administrative and Technical Basics,” Industrial Sponsors of the Leeds Geometric Modelling Project, U. Leeds, U.K, May 15, 1980.

“University-Industry Collaboration,” Trustees meeting, U. Rochester, Spring 1980.

“Graphics”, section of Geometric Modelling short course, U. Rochester, Summer 1980.

“Graphics”, section of Geometric Modelling short course, U. Rochester, Summer 1981.

“Representations and Procedures in PADL-2,” IBM T.J. Watson Research Center, Yorktown Heights, NY, November 3, 1981.

“The Sensuous Robot,” Computer Science Undergraduate Council, U. Rochester, November 11, 1981.

“Solid Modelling for Artificial Intelligence and Automation,” Lab for Laser Energetics, U. Rochester, November 13, 1981.

“Intrinsic Images from Intensity Images,” Workshop on Optical Information Processing and Applications, Cuernavaca, Mexico, January 20, 1982.

“Constraints and Context in Artificial Intelligence” (with S.L. Small), Rochester Area Microcomputer Society, February 1982.”

“Representations of Solids and their Properties,” Workshop on Cognitive Models of the Everyday Physical World, U. Rochester, May 21, 1982.

“Estimating the Mode Using a Small Memory,” Statistics Dept., U. Rochester, October 12, 1982.

“Hough Transform Theory and Applications,” General Motors Research Labs, Warren, MI, April 7, 1983.

“Imaging, Graphics, and Physics,” Conference of Physics Teachers, Rochester, NY, October 15, 1983.

“What is Computer Vision and What is it For?,” Annual Conference of Museum Computer Network, Inc., Rochester, NY, October 21, 1983.

“Strategies for Sequential Mode Estimation,” Computer Science Dept., Columbia U., November 22, 1983.

“Modes and Clusters in Artificial Intelligence,” Dept. of Mathematics, Rochester Inst. Technology, Rochester, NY, December 7, 1983.

“Peak Detection, the Hough Transform, and Computer Vision,” General Electric Research and Development Center, Schenectady, NY, January 6, 1984.

“Solid Modeling and Vision,” part of Computer Vision Short Course, Carnegie- Mellon U., July 1984.

“Shape and Symmetry,” University of Toronto, October 9, 1984.

“Shape from Texture and Symmetry,” University of California at Santa Barbara, February 19, 1985.

“Shape from Texture and Symmetry,” Marquette University, April 18, 1985.

“Intrinsic Images,” University of Wisconsin at Parkside, April 19, 1985.

“Recent Results in Intrinsic Image Calculation,” G.M. Technical Center, Warren, MI, June 2, 1985.

“Shape from Shading, Symmetry and Texture,” University of Melbourne, Australia, July 10, 1985; Monash University, Melbourne, Aust., July 12, 1985.

“Four Constraints in Geometric Computer Vision,” Australian National University, Canberra, Aust., July 23, 1985.

“Parallel Vision: Shape and Motion from Contour,” Dept. of Artificial Intelligence, Edinburgh, Scotland, September 25, 1985.

“Color, Texture, Shape, and Motion,” 3rd British Pattern Recognition Assoc. Conference, St. Andrews U., Scotland, September 26, 1985.

“Computer Vision, the Butterfly, and the Autonomous Land Vehicle,” Computing Center Lunch Lecture Series, U. Rochester, February 4, 1986.

“Aggregate Methods in Texture and Motion,” Carnegie-Mellon University, February 10, 1986.

“What’s Ahead for Machine Vision,” Distinguished Lecture Series, Carnegie-Mellon University, March 12, 1986.

“Is Segmentation a Faculty?,” Artificial Intelligence Lab, Massachusetts Institute of Technology, May 12, 1986.

“The Segmentation Problem,” Italian Brain College, Trieste, Italy, October 13- November 7, 1986.

“Matching Relational Structures,” Italian Brain College, Trieste, Italy, October 13- November 7, 1986.

“Representing 3-D Solids,” Italian Brain College, Trieste, Italy, October 13- November 7, 1986.



“Structural and Probabilistic Approaches to Computer Vision,” Northeast AI Consortium Annual Meeting, Rome Air Development Ctr., Rome, NY, April 9, 1987.

“Can a Butterfly Thinking About Tinkertoys Drive a Winnebago?,” Oberlin College, Oberlin, OH, April 23, 1987.

“Computer Vision for Robotics,” Institute for Mathematics and its Applications, Minneapolis, MN, August 1987.

“Two-Dimensional Image Analysis,” Institute for Mathematics and its Applications, Minneapolis, MN, August 1987.

“Three-Dimensional Techniques and Matching,” Institute for Mathematics and its Applications, Minneapolis, MN, August 1987.

“Artificial Intelligence and the Butterfly,” Rochester Chapter of the Association for Computing Machinery, November 12, 1987.

“A System for Hierarchical Parallel Vision: Design and Experiences,” Dept. of Applied Science, Harvard U., January 20, 1988; Dept. of Computer Science, Boston U., January 21, 1988.

“Parallel Programming on the Butterfly Computer,” invited talk, 20th Interface Symp., Reston, VA, May 1988.

“Animate Robot Vision,” Sowerby Research Centre, British Aerospace, Bristol, UK, 26 Sept. 1988.

“Animate Vision and Focus of Attention,” University of Oxford Engineering Sciences Department, 24 Oct. 1988.

“The Rochester Robot,” University of Reading Special Interest Group on Artificial Intelligence, 1 Nov. 1988.

“Visual Reflexes,” Department of Artificial Intelligence, U. of Edinburgh, 7 Dec. 1988; “Control of Visual Reflexes”, Robotics and Vision Seminar, U. of Edinburgh, 8 December 1988.

“Visual Reflexes and their Control”, Department of Computer Science, University of Aberdeen, 9 Dec. 1988. Rank Prize Funds Mini-Symposium on Image Coding and Computer Vision, Dec. 13-15, Broadway, UK, 1988. U. Manchester 12 Jan. 1989. U. Sheffield 30 Jan. 1989. British Petroleum Research Sundbury 25 Jan. 1989. Rutherford-Appleton Laboratory Lecture, 15 March 1989. IBM-UK Scientific Centre, Winchester 11 May 1989. U. Surrey, Guildford 31 May 1989. IBM Europe Institute, Garmisch-Partenkirchen, 14 July 1989.

“Gaze Controls with Delays and Interactions”, U. Oxford.

“Geometric Invariants”, IBM Europe Institute Garmisch-Partenkirchen, 11 July 1989.

“Predictive Gaze Control”, NATO-ACI Institute, Maratea, IT. July 22 1989.

“Control of Gaze with Smith Prediction and Kinematic Simulation”, Univ. Oxford Robotics Research Group, Engg. Sciences Department, August 2, 1989.

## 11 Patents

2006: Provisional patent with Bo Hu and Randal Nelson: “reconstructing 3-D shape with a mirror and no calibration.”

2005: Patent negotiations, possibly a provisional patent, with Brian Madden, for “Multi-resolution stereo hardware and algorithms”.

## **12 Recent University Committees**

2008 - Humanities Laboratories Committee  
2008 - UR/George Eastman House Collaboration Committee  
2008 - SEAS Curriculum Committee  
1999- Committee on Non-Standard Re-Appointments  
1996-98 Committee on Re-engineering Business Centers  
1994 Member, Ad Hoc University Committee on Future Directions of Mathematics  
1986 Member, Ad Hoc University Committee on Future Directions of Statistics  
1985-87 Faculty Council, College of Arts and Science  
1982-85 University Ad-Hoc Committee on Computing Curricula  
1982- Committee on Cognitive Science  
1981- Telecommunications Study Steering Committee  
1981-82 College of Engineering and Applied Sciences Committee on Computing Curricula

## **13 Department Service**

2010-2009 Recruiting Committee  
2009-2008 Chair, URCSUG Curriculum Committee  
2006 Recruiting Committee  
2006 Quals Committee  
2000-06 Web Committee  
2001-06 Curriculum Committee  
2001-02 Admissions Committee  
2001 Ogihara Promotion Committee  
1999-02 Curriculum Committee  
1999-00 25th Anniversary Coordinator  
1998-99 Chair, Seminar Committee  
1997-98 Member, Lab Committee  
1996-97 Chair, Admissions Committee  
1995-98 Member, Graduate Recruiting Committee  
1994-97 Chair, Curriculum Committee (TA assignments, course scheduling)  
1997 Chair, Laboratory Committee  
1994-96 Member, Laboratory Committee  
1992-94 Chair, Laboratory Committee  
1991-92 Chair, Graduate Recruiting Committee  
1991-92 Member, Laboratory Committee  
1990-94 Member, Curriculum Committee

1990-91 Chair, Graduate Advising Committee  
1989-90 Graduate Advisor  
1984-87 Department Chairman  
1984-87 Admissions, Recruiting, Laboratory Committee  
1983-84 Chairman, Curriculum Committee  
1981-82 Curriculum Coordinator, Laboratory Committee  
1975-79 Seminar Committee (variously member and chair)  
1975-79 Qualifying Examination Committee (variously member and chair)  
1975-79, 88 Admissions Committee (variously member and chair)

## **14 Courses Created and Taught**

Engineering and Computing (160), Advanced Robotics (290C), Analysis of Algorithms (282), Computation and Formal Systems (CSC173), Several (16) Independent Studies (391), Supervised Teaching (397), Mobile Robot Fundamentals and Laboratory (396), Cryptology (290), Digital Imaging (Team taught) (ECE 102), Computer Literacy (110), Introduction to Computing (171), Data Structures (172), Introduction to Computer Science (181), Undergraduate Problem Seminar (200), Non-Numeric Computing (206), Computer Graphics (207/407), Data Structures (220), Machine Language (222/422), Artificial Intelligence (240/440, 242/442), Computer Vision (246/446, 249/449), Computer Analysis of Images (246/446), Mobile Robotics (290), Outdoor Mobile Robotics (395), Seminar in Automated Car Design (395), Problem Seminar (400), Mathematical Foundations of AI (442), Theory of Computation (480), Advanced Computational Vision (549), Computer Vision Laboratory Practicum (549), Reading Course in Kalman Filter Techniques (with H. Durrant-Whyte; Oxford, 1989), Reading Course in Geometry (with J. Mundy; Oxford, 1989), Seminar in Planning and Control (577), Communicating Sequential Processors and Transputers (577); Seminar in More Math'l. Foundations of AI (577), Sem. in Indoor Mobile Robotics (577)

## **15 Miscellaneous University Service**

2009 Renaissance Scholar Interviews  
2009 GEAR Interviews  
2008 Renaissance Scholar Interviews  
1975- two or three PhD defense chairs per year.  
1999- Member, Drama House Board of Stewards.  
2001- Library Scare Fair participant  
2001 Pilot study group for WebCT, a computerized course tools utility. Attended about 10 meetings of WebCT training and evaluation groups and two CTLTR meetings.  
2000 Master of Ceremonies, C.S. degree ceremony  
1999-00 Host for Exterior Speakers, Sesquicentennial  
1998 Faculty sponsor for Martial Arts club sport.

1996 Interviewer for M.D./Ph.D. program  
 1993 Commencement Speaker, degree-granting ceremony, Departments of Mathematics, Statistics, and Computer Science  
 1990 Football Recruiting Lunch (March); Pre-Reg'n. Day Undergrad. Advising (Apr.)  
 1988 Participated in University Day activity (play reading), Drama House  
 1987 Organized Computer Science portion of New Building Opening Ceremonies  
 1983 Faculty Sponsor, Computer Interest Floor  
 1981 Graduation Speaker, degree ceremony, Depts. of Mathematics, Stat., and Comp. Sci.  
 1979 Master of Ceremonies, degree ceremony, Depts. of Mathematics, Stat., and Comp. Sci.  
 1978-79 Leader for Summer Orientation Outings  
 1976-83 Advising, presenting, counseling, program reviewing, and registration at Parents' Weekends and Summer Orientations

## **16 Prediluvian Grant Support**

- [1] "Knowledge-Directed Image Understanding in Photointerpretation," DARPA, N00014-78-C-0164 (1/1/78 - 12/31/82) (Co-PI)
- [2] "PADL-2-Geometric Modelling Research," NSF, DAR78-25359 (1979-80) (Co-PI)
- [3] "Center of Excellence in Artificial Intelligence – Knowledge Representation and Robotics," ONR, N00014-80-C-0197 (8/1/80 - 7/31/83) (Co-PI)
- [4] "Intelligent Distributed Systems: Parallel Computation and Image Understanding," DARPA/ONR, N00014-82-K-0193 (1/1/82 - 6/30/86) (Co-PI)
- [5] "Parallel Methods in Scene Analysis," CNA (ONR), N00014-76-C-0001 (7/1/82 - 6/39/83) (PI)
- [6] "Techniques for Low-Level Vision," NSF, MCS-8302038 (1983-85) (PI)
- [7] "Acquisition of Computer Research Equipment," NSF, MCS-8304516 (1983-84) (Co-PI, primary proposal preparation)
- [8] "A Testbed for the Study of Parallel Computation," NSF/CER, DCR-8320136 (6/1/84 - 5/31/88) (Co-PI)
- [9] "A Programming Environment for Parallel Vision Algorithms," ETL/DARPA, DACA76-85-C-001 (1/31/85 - 1/30/87) (PI)
- [10] "Knowledge Based Image Understanding," RADC/NAIC, F30602-85-C-0008 (5/12/86 - 9/30/89) (PI)
- [11] "Derivation of Models to Quantify Image Quality Particularly Mottling," KODAK, (10/1/86 - 9/30/87) (PI)
- [12] "Institutional Infrastructure Program: Parallel Systems for Animate Intelligence" NSF (1989-1991) (PI)

## 17 Ancient Grant Support 2001-2006

- [1] "Classification of Consumer Photographs", Eastman Kodak Co. and NY State through NYSTAR, \$67,000 (PI), 2001.
- [2] "Institutional Infrastructure Program: Spatial Intelligence" NSF, about \$2M (CO-PI), 2001-2003.
- [3] "NSF Research Experience for Undergraduates: Spatial Intelligence", NSF, \$20,000, (PI), 2002.
- [4] "CAREER Award, Kyros Kutulakos", NSF, \$40K (Administrator in KK's absence), 2002.
- [5] "Scene Recognition", Eastman Kodak Co. and NY State through NYSTAR, \$45,000 (PI), 2002.
- [6] "Segmentation and Object Recognition", AppleAid, Inc. and NY State through NYSTAR, \$35,000 (PI), 2002.
- [7] "Statistics and Semantics in Scene Recognition", Eastman Kodak Co. and NY State through NYSTAR, \$45,000 (PI), 2002.
- [8] "Mobile Robot Navigation and Obstacle Avoidance", AppleAid, Inc. and NY State through NYSTAR, \$35,000 (PI), 2002.
- [9] "Context in Scene Recognition", Eastman Kodak Co. and NY State through NYSTAR, \$45,000 (PI), 2003.
- [10] "Mobile Robot Navigation and Obstacle Avoidance", AppleAid, Inc. and NY State through NYSTAR, \$35,000 (PI), 2003.
- [11] "Context in Scene Recognition", Eastman Kodak Co. and NY State through NYSTAR, \$56,000 (PI), 2004.
- [12] "Multi-flash Camera for 3-D Perception", AppleAid, Inc., \$20,500 (PI), 2004.
- [13] "The Computer Science Curriculum", U. Rochester Goergen Award, \$10,000 (CO-PI), 2004.
- [14] "Intruder Detection through Video Surveillance", PLe-Inc. and NY State through NYSTAR, \$47,000 (CO-PI), 2005.
- [15] "Advanced Classification for Scene Recognition", Eastman Kodak Co. and NY State through NYSTAR, \$43,000 (PI), 2005.
- [16] "Object Recognition", NY State through NYSTAR, \$2,200 (PI), 2005.
- [17] "Optical Computer Tomography Analysis", NIH, \$5,000 (Consultant), 2005.
- [18] "Scene Recognition", Eastman Kodak and NY State through NYSTAR, \$60,000 (PI), 2006.
- [19] "Diffusion Snakes", Appleaid Inc. , \$12,800 (PI), 2006.
- [20] "Intruder Detection through Video Surveillance", PLe-Inc. and NY State through NYSTAR, \$15,000 (PI), 2006.

## 18 Publications

### 18.1 Refereed and Invited Articles

Ifeoma Nwogu, Yingbo Zhou, Christopher Brown; “DISCO: Describing Images Using Scene Contexts and Objects”, AAI2011: Special Track on Physically Grounded AI, San Francisco, August 2011.

Ifeoma Nwogu, Venu Govindaraju, Chris Brown; “Syntactic Image Parsing using Ontology and Semantic Descriptions”, Perceptual Organization Workshop (POCV), CVPR 2010, San Francisco, June 13-18, 2010.

P. A. Ardis, C. M. Brown, and A. Singhal; ”Inpainting Quality Assessment” Journal of Electronic Imaging Special Issue on Image Quality January - March, 2010.

P. A. Ardis and C. M. Brown; ”Maximizing Inpainting Efficiency without Sacrificing Quality” Electronic Imaging 2010 January 17 - January 21, 2010.

X. Tang, P. A. Ardis, R. Messing, C. M. Brown, R. Nelson, P. Ravines and R. Wiegandt; ”Digital Analysis and Restoration of Daguerreotypes” Electronic Imaging 2010 January 17 - January 21, 2010.

P. A. Ardis and C. M. Brown; ”Self-Similarity Inpainting” IEEE International Conference on Image Processing November 7 - November 11, 2009.

P. A. Ardis and C. M. Brown; ”Using Conditional Random Fields for Decision-Theoretic Planning” International Conference on Modeling Decisions in Artificial Intelligence November 30 - December 2, 2009.

P. A. Ardis, A. Singhal and C. M. Brown; ”Depth-From-Trajectories for Uncalibrated Multi-view Video” Electronic Imaging 2009 January 18 - January 22, 2009.

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