Ellen Lowenfeld Walker

Professional Experience: 1

Education: 1

Teaching Experience: 2

Course Development: 5

Theses Supervised: 10

Undergraduate and Graduate Advising: 14

Organization of Workshops and Student Activities: 16

Committee Work: 17

Other Service and Administrative Activities 18

Community and Public Service 18

Grant Activity: 19

Books & Monographs: 20

Articles: 20

Professional and Public Lectures: 23

Published Interviews 27

Conferences and Workshops Attended 28

Activities in Professional Societies: 29

Reviews of Proposals, Papers, and Textbooks: 32

Other Professional Service: 35

Honors and Awards: 35

Ellen Lowenfeld Walker

Computer Science
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PROFESSIONAL EXPERIENCE:

August 2002 – Present	**Professor** Department of Computer Science Hiram College, Hiram, OH
August 1996 – July 2002	**Associate Professor** Department of Computer Science Hiram College, Hiram, OH
August 1989 – June 1996	**Assistant Professor** Department of Computer Science Rensselaer Polytechnic Institute, Troy, NY
August 1981 – August 1989	**Graduate Research Assistant** Department of Computer Science Carnegie Mellon University, Pittsburgh, PA
Summer 1983	**Member of Technical Staff** AT&T Bell Laboratories, Holmdel, NJ
Summer 1981, Summer 1982	**Summer Research Associate** Bell Laboratories, Holmdel, NJ
Summer 1980	**Summer Research Assistant** Bell Laboratories, Murray Hill, NJ
Summer 1979	**Computer Technician** Automation Technology Group National Bureau of Standards, Gaithersburg, MD

EDUCATION:

August 1989	**Ph.D. in Computer Science** School of Computer Science Carnegie Mellon University, Pittsburgh, PA
May 1983	**M.S. in Computer Science** Department of Computer Science Carnegie Mellon University, Pittsburgh, PA
June 1981	**Sc.B. in Computer Science, Magna Cum Laude** Department of Computer Science Brown University, Providence, RI

TEACHING EXPERIENCE:

Hiram College:

Date		Course		Enrollment
2007	Spring	CPSC 172	Introduction to Programming Java	17
		CPSC 170	Java Supplement	3
		CPSC 388	Compiler Design	6
		CPSC 331	VLSI Design	5
		CPSC 281	Independent study (3 hrs)	2
2006	Fall	CPSC 171 L	Lab: Introduction to Computer Science (2 sections)	36
		CPSC 201	Data Structures	10
		CPSC 363	Computer Networks	8
		CPSC 400/1	Integrated Research Component	6
2006	Spring	CPSC 252	Computer Organization	4
		CPSC 386	Artificial Intelligence	15
		CPSC 400/1	Integrated Research Component	11
		INTD 341	The Nature of Intelligence - with L. Braver\	18
2005	Fall	C PSC 152	LISP	16
		CPSC 171 L	Lab: Introduction to Computer Science (2 sections)	28
		CPSC 351	Programming Languages	12
		CPSC 202	Programming & Problem Solving Practicum	5
2005	Spring	CPSC 331	VLSI Design	9
2004	Fall	CPSC 320	Computer Vision	8
		CPSC 356	Database Design (Weekend College)	11
		CPSC 400/1	Integrated Research Component	3
		CPSC 481	Independent Research (Capstone, 1-4 hrs) - with O. Slotterbeck and J. Rose	3
2004	Spring	CPSC 172	Introduction to Programming Java	13
		CPSC 363	Computer Networks	12
		CPSC 400/1	Integrated Research Component	7
		CPSC 481	Independent Research (4 hrs)	1
		CPSC 481	Independent Research (Capstone, 1-4 hrs) - with O. Slotterbeck and J. Rose	3
		CPSC 224	Internet Administration	9
2003	Fall	FRCL 101	Robots: Our New Best Friends?	13
		CPSC 201	Data Structures	11
		CPSC 202	Programming & Problem-Solving Practicum	7

2003	Spring	CPSC 281	Independent Study (3 hrs)	1
		CPSC 363	Computer Networks (Weekend College)	15
		CPSC 386	Artificial Intelligence	14
		CPSC 400/1	Integrated Research Component	10
		CPSC 331	VLSI Design	10
		CPSC 481	Independent Research (Capstone, 1-4 hrs) - with O. Slotterbeck and J. Rose	13
2002	Fall	CPSC 201	Data Structures	21
		CPSC 356	Database Design (Weekend College)	19
		CPSC 152	LISP	26
2002	Spring	CPSC 172	Introduction to Programming C++	14
		CPSC 320	Computer Vision	6
		CPSC 400/1	Integrated Research Component	4
		CPSC 227	Software Evaluation (Weekend College)	12
		CPSC 481	Independent Research (Capstone, 1-2 hrs) - with O. Slotterbeck and J. Rose	7
2001	Fall	CPSC 172	Introduction to Programming: C++	7
		CPSC 388	Compiler Design	5
		CPSC 481	Independent Research (Capstone, 1-2 hrs) - with O. Slotterbeck and J. Rose	2
2001	Spring	CPSC 172	Introduction to Programming: C++	15
		CPSC 351	Programming Languages	11
		CPSC 222	Interface Design (Weekend College)	16
		CPSC 281	Independent Study (2 hrs)	1
		CPSC 481	Independent Research (Capstone, 1-2 hrs) - with O. Slotterbeck and J. Rose	5
2000	Fall	CPSC 345	Operating Systems	7
		CPSC 356	Database Design (Weekend College)	15
		CPSC 400	Integrated Research Component	7
2000	Spring	CPSC 172	Introduction to Programming: C++	9
		CPSC 386	Artificial Intelligence	7
		CPSC 400	Integrated Research Component	7
		CPSC 381	VLSI Design	9
1999	Fall	FRCL 101	Robots: Fantasy and Reality	15
		CPSC 152	LISP	18
		CPSC 171	Introduction to Computer Science	38
		CPSC 202	Programming & Problem Solving Practicum	13
		CPSC 281	Independent Study (1 hr)	1
1999	Spring	CPSC 172	Introduction to Programming: C++	12
		CPSC 320	Computer Vision	13
		CPSC 227	Software Evaluation (Weekend College)	10
		CPSC 224	Internet Administration (tutorial)	1
1998	Fall	CPSC 201	Algorithm Design	13
		CPSC 356	Database Design (Weekend College)	11
		CPSC 222	Software Engineering: Interface Design	11
		CPSC 224	Internet Administration (tutorial)	1
1998	Spring	CPSC 171	Introduction to Computer Science	14
		CPSC 252	Computer Organization	12
		CPSC 224	Internet Administration (Weekend College)	24

		CPSC 281	Independent Study (1 hr)	3
1997	Fall	CPSC 172	Introduction to Programming: C++	5
		CPSC 201	Algorithm Design	12
		CPSC 363	Computer Networks (Weekend College)	16
		CPSC 281	Independent Study (1 hr)	2
		CPSC 481	Independent Research (2 hr)	1
1997	Spring	CPSC 171	Introduction to Computer Science	17
		CPSC 165	Computers and the Information Age	14
		CPSC 386	Artificial Intelligence	6
1996	Fall	CPSC 172	Intro to Programming: C++	3
		CPSC 356	Database Design	14
		CPSC 222	Software Engineering: Interface Design	7

Rensselaer Polytechnic Institute:

Date		Course		Enroll-ment
1996	Spring	66-4/696	Topics in Object Recognition	15
1995	Fall	66–415	Introduction to Artificial Intelligence	35
		66-694	Readings in Computer Science	2
1995	Spring	66-216	Fundamental Structures of Computer Science I	58
		66-4/696	Topics in Object Recognition	10
		66-494	Readings in Computer Science	1
1994	Fall	66-415	Introduction to Artificial Intelligence	25
		66-694	Readings in Computer Science	1
1994	Spring	66-216	Fundamental Structures of Computer Science I	32
		66-694	Readings in Computer Science	1
1993	Fall	66-415	Introduction to Artificial Intelligence	23
1993	Spring	66-216	Fundamental Structures of Computer Science I	36
		66-696	AI Techniques for Computer Vision	10
1992	Fall	66-415	Introduction to Artificial Intelligence	23
		66-694	Readings in Computer Science	2
1992	Summer	66-694	Readings in Computer Science	1
1992	Spring	66-216	Fundamental Structures of Computer Science I	20
		66-494	Readings in Computer Science	2
1991	Fall	66-216	Fundamental Structures of Computer Science I	27
		66-494	Readings in Computer Science	1
1991	Spring	66-696	Model-Based (3D) Computer Vision	18
1990	Fall	66-216	Fundamental Structures of Computer Science I	37
		66-494	Readings in Computer Science	1
		66-694	Readings in Computer Science	2
1990	Spring	66-217	Fundamental Structures of Computer Science II	24
		66-694	Readings in Computer Science	1
1989	Fall	66-216	Fundamental Structures of Computer Science I	29

COURSE DEVELOPMENT:

(Recent course materials are available online at http://cs.hiram.edu/~walkerel)

Hiram College

Spring 2007 *Compiler Design*

Renewed this course, having last taught it in 2001. Made significant use of the JFLAP visualization tools to improve teaching of the formal language aspects of this course. Included demonstrations and in-class interactive assignments as well as homework using the JFLAP tools and textbook. Enrollment: 6 undergraduates.

Fall 2006 *Data Structures*

Taught this course for the first time using the Java language, which required developing entirely new examples as well as making major modifications to all materials. Also added a weekly formal lab, and increased the emphasis on modern programming techniques, including automated unit testing and pair programming. Developed six new laboratory exercise for the course. Enrollment: 10 undergraduates.

Spring 2006 *The Nature of Intelligence*

This new team-taught interdisciplinary course was co-developed with Lee Braver. Students read classic papers describing intelligence by both philosophers and computer scientists, and implement their own intelligent robots, inspired by the work of Rod Brooks at MIT (and using the Lego Mindstorms Robot kits). Major paradigms studied include the symbolic / hierarchical paradigm and the reactive paradigm. The course development included gaining a new perspective on classic materials. Sakai was heavily used for dissemination of materials and assignments. Enrollment: 18 undergraduates (with a wait list).

Spring 2006 *Computer Organization*

Last taught in 1998, this course was significantly updated to include more modern systems and techniques. Emphasis on modern processor design techniques and processors was added. In addition to programming in Assembly Language using the SPIM simulator, students used a subset of the Altera Max Plus software (also used in VLSI Design) to design and simulate combinational and sequential logic. Four formal lab sessions were added to the course, as well as entirely new homework assignments. Enrollment: 4 undergraduates.

Fall 2005 *LISP*

Implemented this online course using the Sakai system for discussions and assignments. All work was submitted and graded using the Sakai system. Material was presented on the web (linked through Sakai), and most communication was through the Sakai system. Enrollment: 16 undergraduates.

Fall 2005 *Introduction to Computer Science: Laboratory*

Updated and enhanced all laboratory assignments for the course. Developed a totally new assignment using the Scheme programming language. Recreated the algorithms laboratory assignment using a new version of the software. Enrollment: 28 undergraduates.

Spring 2004 *Internet Administration*

Last taught in 1998, this course was completely redeveloped. As in 1998, students develop and administer their own interactive web sites, and client-side and server-side programming

and security are considered. However, Internet development and administration tools that were current in 1998 are obsolete today, so parts of the course were updated and many new topics were added; notably an introduction to database-backed web technology. The course delivery was also revamped for the traditional college, taking advantage of the laboratory classroom. Enrollment: 9 undergraduates.

Spring 2004 *Introduction to Computer Science -- Java*

Learned and taught a new computer language (Java) for the introductory programming course. The emphasis on the object-oriented style was maintained for Java. Developed weekly laboratory experiences to supplement the textbook-based material. Significant material on graphical animation was added. Some of the lab experiences were adapted from materials developed by Angela Guercio in Fall 2003; others were original. Enrollment: 13 undergraduates

Spring 2004 *Computer Networks and IRC*

Developed material on network programming and enhanced the depth of this course, until now, only taught in the weekend college. Developed specifications for Integrated Research Projects to go along with this course for the first time. Enrollment: 14 undergraduates (course), 7 undergraduates (IRC)

Fall 2003 *Data Structures*

The Data Structures course was moved from a lecture-style room with one computer to a laboratory-style classroom with one computer per student. In-class programming exercises were developed for students working in small groups. Most in-class exercises provided focused experience in areas that were necessary for the large formal out-of-class programming assignments. Enrollment: 11 undergraduates

Fall 2003 *Robots: Our New Best Friends?*

This course was updated to take advantage of the huge strides in consumer-oriented robotics since 1999. More emphasis was placed on robots that help people in the real world, relative to robots in science fiction and entertainment only. The main Lego Mindstorms project was changed from a competition to an exhibition and creativity was encouraged. While it was hoped that these changes would help attract women to the colloquium, the enrollment didn't bear that out. Aspects of the course such as the trip to Carnegie Mellon and the Lego Mindstorms robot labs were retained. Enrollment: 13 undergraduates

Spring 2003 *Computer Networks [WEC]*

Given the incredible pace of change in the area of Computer Networks, this course, last taught in 1997, was completely overhauled. A significant change was the emphasis of the Internet, and the "top-down" approach working from Internet applications with which the students are already familiar. In-class demonstrations were used extensively. Enrollment: 15 undergraduates

Fall 2002 *Data Structures*

Revised this course (formerly Data Structures and Algorithms) to emphasize Data Structures and advanced programming concepts, leading up to a revised Algorithms course (to be developed by Oberta Slotterbeck). New material was added to the course, and presentations on older material (that I last taught in 1998) were updated. Enrollment: 21 undergraduates

Fall 2002 *LISP*

Revised this one-credit course as a strictly online course using the Web, a mailing list and direct email. Created a complete set of lessons, examples, and exercises with a simplified grading policy. Enrollment: 24 undergraduates

Spring 2002 *Introduction to Database*

Initiated the development with Jane Rose and Kelly Prill of a new introductory database course (elements of database design + hands-on introduction to Access) for the weekend college. The course serves students in the Business Management program, although students in Computer Systems Management can take it as a general elective prior to *Database Design* if desired. This course was taught as a special topics course by Kelly Prill.

Fall 2001 *Compiler Design*

Although Compiler Design has been taught at Hiram College before, this was my first time teaching the course. I had not worked with some of the material in this course since graduate school, and some portions of the course use tools that were developed since then. I integrated the use of compiler-design tools into the course (as Obie has done in the past) and I also incorporated educational tools for computer science theory developed at Duke University. The course was taught in a very interactive format in our new conference room. Enrollment: 5 undergraduates

Spring 2001 *Interface Design*

Revised this course to fit the Weekend College three-week format, incorporating more in-class activities, cutting back slightly on the programming, and adding an extra optional lab session between weekends. In connection with the ongoing NSF project, added a database front end project, with teams of students developing Web-based front ends to existing online databases. Enrollment: 15 undergraduates.

Spring 2001 *Introduction to Computer Science -- C++*

Revised the delivery of the course to take advantage of our new classroom, developing additional in-class presentations and laboratory exercises.

Spring 2001 *Programming Languages*

Although Programming Languages had been taught at Hiram College before, this was my first time teaching the course. The course was revised and updated to reflect advancement in the field in the three years since it was previously taught. Enrollment: 11 undergraduates

Fall 2000 *Database Design (WEC)*

As part of the National Science Foundation grant with Oberta Slotterbeck, I revised this course to incorporate long-term group projects while retaining the necessary theoretical material. The class was divided into four groups and four external “customers” were recruited. Each group developed a database to meet the customer's needs. These databases will be retained for use and further development in future courses. Materials from Arizona State University were adapted to enhance this course. Enrollment: 15 undegraduates

Spring 2000 *VLSI Design*

This course provides students with experience in modern methods for VLSI (chip) design. Students study logic design and theory, then design their own chips using both schematic capture and hardware description languages. In Spring 2000, the course included a one-week trip to Silicon Valley, where students learned the history and current practice of VLSI and microprocessor design and manufacture. Enrollment: 9 undergraduates

Fall 1999 *Robots: Fantasy & Reality*

This First-Year Colloquium uses the topic of robotics (both in literature and computer science) to introduce new students to college-level reading, writing and analysis. In addition to the four papers and two oral presentations that are required by all colloquia, students design, build and program their own Lego robots. Enrollment: 15 undergraduates

Fall 1999 *Problem-Solving & Programming Practicum*

This course was created to provide additional programming practice to our students, alleviating one of the difficulties of teaching in a 12-week, instead of 15-week semester. Students learn to apply common problem-solving techniques to a wide assortment of problems, while doing a significant amount of in-class programming. Instead of a textbook, original code examples are provided for each technique. Enrollment: 13 undergraduates

Spring 1999 *Computer Vision*

This course was created as a new project course, giving an overview of the field of computer vision with special emphasis on algorithms for object recognition. In addition to classwork, students are required to develop individual object-recognition systems based on research in the primary literature. Specialized software was developed to support the course. Enrollment: 13 undergraduates

Spring 1999 *Software Evaluation (WEC)*

This course, developed for the Weekend College Computer Systems major and minor, covers issues that come up when choosing and evaluating existing software to solve an organization's problems. Primary materials from the World Wide Web are used to study the software selection process, requirements engineering, software metrics used for the evaluation, and black-box testing. Students participate in a group case study as well as developing their own analysis of available software for a specific business problem. Enrollment: 10 undergraduates

Fall 1998 *Software Engineering: Interface Design*

This course was revised to take advantage of changes in technology in the two years since it had been taught; particularly the emergence of sophisticated interface development tools for the World Wide Web. Students design their own interfaces adhering to common principles, protoype them using the JavaScript langauge, and evaluate their designs through user testing. Enrollment: 11 undergraduates.

Spring 1998 *Computer Organization*

This course was revised to emphasize more modern computers. New material included a change in the assembler language taught, and topics such as VLSI design, pipelining, and RISC. Students programmed on the SPIM RISC machine simulator. Enrollment: 12 undergraduates.

Spring 1998 *Internet Administration*

This course was developed for the Weekend College Computer Systems minor, although it also serves as an elective for upperclass traditional students. The course covers worldwide web administration and programming, including both CGI scripting on the server side and JavaScript programming on the client side. Other topics include server setup, search engine methodologies, efficiency issues and security. Students develop and administer their own interactive web sites. Enrollment: 24 undergraduates.

Fall 1997 *Algorithm Design*

Although this course was not new to Hiram College, it was completely revised, changing programming language, textbook, and material. In addition to the standard data structures and sorting and searching algorithms, the course now includes material on graph theory, geometric algorithms, and pattern matching. Students complete three large programs during the course. Enrollment: 12 undergraduates.

Fall 1997 *Computer Networks (WEC)*

This course was developed for the Weekend College Computer Systems Minor, although it also serves as an elective for upperclass traditional students. The course covers the theory of computer networking, including algorithms (e.g. coding, access mediation, routing) and protocols (e.g. TCP and IP) that are currently used worldwide. Students learn about networks from directly-connected LANs through the global internet. Enrollment: 16 undergraduates.

Spring 1997 *Computers and the Information Age*

This course was initially developed and taught by others at Hiram College (though most recently by adjuncts), but was modified significantly to incorporate discovery learning through closed laboratories. Students learn about the Internet, studying both mechanics (how to search, building a web page) and theory (how the network works, ethical issues). Course materials were delivered entirely on the Worldwide Web. These materials were adapted for use by three different faculty members at Hiram College and by an 8th grade teacher. Several Hiram College faculty members have also used them for self-study. Enrollment: 18 undergraduates.

Fall 1996 *Database Design*

This course covers both database theory and applied database design, with emphasis on the relational data model. Students learn methods of relational database design and optimization, and experiment with both mainframe and microprocessor-based relational database tools. When the course was taught in 1998, it included a prototype for the optional Integrated Research Component, adopted into the Computer Science major as of the 1999 catalog. Enrollment: 13 undergraduates.

Fall 1996 *Software Engineering: Interface Design*

This course was designed for Hiram College's unique three-week term. The course is an intensive study of user interfaces, including relevant human abilities and limitations, available user interface tools and techniques, and techniques for evaluating user interfaces. Activities include lecture, discussion, structured laboratories, unstructured programming assignments, and student presentations. The culmination of the three-week session is the presentation of each student's own interface design, implementation, and evaluation for a tutorial program on a topic of the student's choice. Enrollment: 6 undergraduates.

Rensselaer Polytechnic Institute

Summer 1995 *PipeLINK Summer High School Program*

This two-week intensive program introduced high school girls to a wide variety of areas in computer science via hands-on activities, lectures, and site visits. Eleven new interactive laboratory activities were developed, in areas such as artificial intelligence, robotics, the Internet, image processing, and C++ programming. Eleven additional2 presentations by faculty and graduate students, and three field trips to computer science laboratories and workplaces, were organized. (with S. Rodger) Enrollment: 20 high school girls.

Spring 1995 *Topics in Object Recognition (Special Topics Course)*

This seminar was developed to provide a broad overview of object recognition, primarily for students who have had some experience already with computer vision. The course is taught in a seminar format, discussing current papers from the literature. Existing object recognition systems are analyzed and techniques that could be applicable to object recognition are presented. Interaction among undergraduate and graduate students is encouraged. Enrollment: 5 graduate students and 5 undergraduate students.

Spring 1995 *Fundamental Structures of Computer Science* I

The material in this course was reorganized in preparation for the replacement (in Fall 1996) of Fundamental Structures of Computer Science I and II by the new courses Data Structures and Algorithms and Models of Computation. New lecture notes on algorithmic material that was formerly covered in the second semester of the Fundamental Structures sequence were developed. An experimental weekly-quiz format was implemented. Enrollment: 50+ undergraduates.

Fall 1992 *Introduction to Artificial Intelligence*

This undergraduate course covers techniques and issues in the area of Artificial Intelligence, with emphasis on applications of AI techniques to solving difficult problems, including programming in LISP. Before 1992, the course had not been taught by regular Computer Science faculty for three years. I developed lectures and projects centered around current practice in Artificial Intelligence; many of the projects involved interacting with code that was written or modified specifically for the course. Over the past two years, the course has been revised to incorporate in-class computer demonstrations and online materials. Enrollment: 20+ under-graduates per semester.

Fall 1989 *Fundamental Structures of Computer Science I and II*

This sophomore sequence was revised and restructured to better integrate the theory of computer science with practical programming experience. I developed extensive notes to make difficult concepts, such as program verification and formal languages, accessible to sophomores, and designed sequential projects that build from fairly simple initial systems to complex systems by the end of the semester, making use of algorithms, data structures, and theoretical concepts taught in the course. I incorporated interactive computer demonstrations and in-class worksheets in Spring 1994. Enrollment: 30+ undergraduates per semester. (with S. Rodger (1989) and E. Rogers (1990)).

Spring 1993 *Artificial Intelligence Techniques for High-Level Computer Vision (Special Topics Course)*

This seminar course was developed to bring together students of Artificial Intelligence and Computer Vision. It covered Artificial Intelligence techniques for uncertainty management, knowledge representation, search, and learning, along with their applications in computer vision, particularly object recognition. Enrollment: 10 graduate students.

Spring 1991 *Model-based (3D) Computer Vision (Special Topics Course)*

This was the first course on high-level computer vision in the Rensselaer Computer Science Department. It covered three-dimensional modeling, object recognition, and model-based image understanding, using current papers from the literature as references. Enrollment: 18 graduate students.

GRADUATE THESES SUPERVISED:

Doctoral

Jane Liu, Computer Science Department, Rensselaer Polytechnic Institute, *Geometric Invariants from Multiple Views*, December 1996 (Currently employed by Fujitsu in Plano, TX)

William Cheetham, Computer Science Department, Rensselaer Polytechnic Institute, *Case Based Reasoning with Confidence,* August 1996 (Currently employed by General Electric Research & Development Center, in Schenectady, NY)

Hang-Bong Kang, Electrical, Computer and Systems Engineering Department, Rensselaer Polytechnic Institute, *A Fuzzy Approach to Perceptual Grouping for Object Recognition*, November 1993 (Currently employed by Catholic University of Korea)

Doc. Committee

Robin Flatland, Computer Science Department, Rensselaer Polytechnic Institute, *Extending Neighborhood Problems: Algorithms and Analysis*, August 1997

Rajive Joshi, Electrical, Computer and Systems Engineering Department, Rensselaer Polytechnic Institute, *A Minimal Representation Framework for Multisensor Fusion and Model Selection*, December 1996

R. Lindsay Todd, Computer Science Department, Rensselaer Polytechnic Institute, *Toward High-Level Distributed Multi-Interface Computing*, July 1996

Lance Page, Electrical, Computer and Systems Engineering Department, Rensselaer Polytechnic Institute, *Robot Motion Planning for Sensor-based Control, with Sensing and Control Uncertainty*, April 1996

Ed Green, Computer Science Department, Rensselaer Polytechnic Institute, *Table Recognition in Document Processing*, April 1996

Hakan Ancin, Electrical, Computer and Systems Engineering Department, Rensselaer Polytechnic Institute, *3-D Image Processing Algorithms for Automated Cell Counting, Measurement, and Population Analysis*, September 1995

Kwangik Hyun, Mechanical Engineering, Aeronautics and Mechanics Department, Rensselaer Polytechnic Institute, *Vision Based View Planning for Inspection Using CAD Models,* August 1995

Chris Welty, Computer Science Department, Rensselaer Polytechnic Institute, *An Integrated Representation for Software Development and Discovery*, July 1995

Keith Nicewarner, Electrical, Computer and Systems Engineering Department, Rensselaer Polytechnic Institute, *The Geometric State Manager: A Real-Time Distributed Geometric Model Manager*, February 1995

Christian Omlin, Computer Science Department, Rensselaer Polytechnic Institute, *Extraction and Insertion of Symbolic Information in Recurrent Neural Networks*, December 1994

David A. Ferrucci, Computer Science Department, Rensselaer Polytechnic Institute, *Interactive Configuration: A Logic Programming-Based Approach,* November 1994

S.S. Krishnan, Electrical, Computer and Systems Engineering Department, Rensselaer Polytechnic Institute, *On the Feasibility of Assembly Plans*, December 1992

Masters

Varina Hammond, Computer Science Department, Rensselaer Polytechnic Institute, *Teaching Bayesian Networks Through Interactive Exploration*, May 1996.

Deborah Vastola, Computer Science Department, Rensselaer Polytechnic Institute *Interactive Learning Tool for Statistical Reasoning with Uncertainty*, December 1994

James Kurien, Computer Science Department, Rensselaer Polytechnic Institute, *Two Visual Interfaces to Knowledge Representation*, August 1993

Sang-Yup Shim, Computer Science Department, Rensselaer Polytechnic Institute, *Range Image Segmentation Using the Hough Transform for Model-based Recognition*, May 1991

Joshua Brodsky, Computer Science Department, Rensselaer Polytechnic Institute, *HyperLink: A System for Parsing Formal Documents into Hypertext*, May 1990

UNDERGRADUATE RESEARCH SUPERVISED:

Independent Projects

Clay Archer, Hiram College, *Multi-platform GUI Development*, independent research, Spring 2004

Kunal Gupta, Hiram College, *Bioinformatics,* independent study, Spring 2003

Brent Pliskow, Hiram College, *PHP, MySQL and Database Interaction*, independent study, Spring 2001

Logan Browne, Hiram College, *Computer Security and the World-Wide-Web*, independent study, Spring 1998

Barbara Olsafsky, Hiram College, *Gender Differences in the Computer Gaming Industry*, independent study, Spring 1998

Jenelyn Wilthew, Hiram College, *Girls and Computers*, independent study, Spring 1998

Yucel Erbilgic, Hiram College, *Tools for Object Recognition*, undergraduate research project, Spring 1998

Alden Melbourne, Rensselaer Polytechnic Institute, *Comparison of Fuzzy and Bayesian Methods for Perceptual Grouping*, undergraduate research project, Spring 1996

Amy Ayres, Colgate University (via PipeLINK Program), *Best-first Search in Object Recognition*, undergraduate research project, Summer 1995

Theen-Theen Tan, Mills College (via PipeLINK Program), *Teaching Tool for Fuzzy Logic,* undergraduate research project, Summer 1995

Wendy Abbott, SUNY Geneseo (via Distributed Mentor Program), *Intelligent Object Extraction from Range Finder Data*, undergraduate research project, Summer 1995

Jon Bodner, Rensselaer Polytechnic Institute, *Experiments with Fuzzy Perceptual Grouping*, undergraduate research project, Spring 1995

Kathryn Fitting, Trenton State University (via Distributed Mentor Program), *Tool for Plane Detection in Range Finder Data*, undergraduate research project, Summer 1994

Peter Schmidt, Rensselaer Polytechnic Institute, *LEPRS: System for Extracting Ellipses from Images*, undergraduate research project, Spring 1992

Andre Asselin, Rensselaer Polytechnic Institute, *Creature Control Project*, undergraduate research project, Spring 1992

Peter Schmidt, Rensselaer Polytechnic Institute, *Extracting Ellipses from Edge Data,* undergraduate research project, Fall 1991

Todd Hivnor, Rensselaer Polytechnic Institute, *Representing Geometric Relationships between World, Image, and Object,* undergraduate research project, Summer 1991

Todd Hivnor, Rensselaer Polytechnic Institute, *Graphical Display of Incomplete Geometry,* undergraduate research project, Summer 1990

Integrated Research Components

Integrated Research Components, instituted in Spring 2000, are semester-long undergraduate research projects, associated with upper-division electives. Each Hiram College Computer Science major is required to complete 2 Integrated Research Components.

J. Cody Baker, *High-Bandwidth Local Data Distribution Using a Topology Aware Peer to Peer Network*, Computer Networks, Fall 2006. Accepted for presentation at the eleventh annual Consortium for Computing Sciences in Colleges, Northeastern Region (CCSCNE).

Brian Clark, *Torres: The Creation of an Online Game in Java,* Computer Networks, Fall 2006.

Mihai Cucuringu, *Encryption Algorithms & Network Distributed Searching,* Computer Networks, Fall 2006.

Dimitar Dimitrov, *Network Management through the use of the Simple Network Management Protocol,* Computer Networks, Fall 2006.

Bojan Klenjoski, *Multi-Player Tic-Tac Toe - A Team Based Approach,* Computer Networks, Fall 2006.

Jerome Sen, *Internet Messenger / File Transfer,* Computer Networks, Fall 2006.

J. Cody Baker, *Classification of Email into Folders using Naive Bayesian,* Artificial Intelligence, Spring 2006. Accepted for poster presentation at 2007 ACM SIGCSE Student Research Competition, undergraduate division.

Brian Clark, *Torres: Move Searching in an Abstract Strategy Game,* Artificial Intelligence, Spring 2006.

Mihai Cucuringu, *MAT: Automated Mathematical Tools*, Artificial Intelligence, Spring 2006. Accepted for presentation at the eleventh annual Consortium for Computing Sciences in Colleges, Northeastern Region (CCSCNE). Mihai received honorable mention for a CRA Outstanding Undergraduate Award based on this work along with his summer research projects at Cornell and the University of North Carolina.

Dimitar Dimitrov, *Maze Navigation: Path-finding through the use of Potential Fields,* Artificial Intelligence, Spring 2006.

Casey Dombos, *Rescue Toaster v1.0 Maze Solver,* Artificial Intelligence, Spring 2006.

Jason Kiss, *Writing a Musical Melody Line with Artificial Intelligence,* Artificial Intelligence, Spring 2006.

Daniel Klinzing, *A* - Crawling the Web*, Artificial Intelligence, Spring 2006.

Jaina Sangtani, *Playing Clue: Heuristics and Knowledge Representation in AI*, Artificial Intelligence, Spring 2006.

Jerome Sen, *Checkers: Using Mini-Max Search and Alpha-Beta Pruning,* Artificial Intelligence, Spring 2006.

Jeffrey Adair, *Locating, Tracking, and Interpreting Ean-13 Bar Code Waveforms in a Two-Dimensional Video Stream*, Computer Vision, Fall 2004. Third place winner, 2006 ACM SIGCSE Student Research Competition, undergraduate division. Third place winner, 2006 ACM SIGCSE Student Research Competition Grand Finals, undergraduate division.

Adam Ewing, *Automated Colony Counting with Artificial Neural Network*, Computer Vision, Fall 2004.

Art Geigel, *Recognizing American Sign Language Letters Using Principal Component Analysis,* Computer Vision, Fall 2004.

Hani Abu Ghazaleh, *SimpleMail: An Easy Application to Send and Receive E-mail*, Computer Networks, Spring 2004.

Clay Archer, *LAN Assistant: Creating a Cross-Platform, Zero-Configuration Network Application,* Computer Networks, Spring 2004.

Kohei Matsumoto, *Photo Storage Server*, Computer Networks, Spring 2004.

Brianna Tracy, *Pong,* Computer Networks, Spring 2004.

Jacob Vigeveno, *Java Whiteboard Chat*, Computer Networks, Spring 2004.

Michael Wade, *Real-Time Streaming Data: Creating a Blockbuster in 12 Weeks,* Computer Networks, Spring 2004.

Jeff Zimmerman, *Error Detection and Reliability in the Link Layer of a Network,* Computer Networks, Spring 2004.

Jason D. Seith, *Security and Usability of a Database Driven Web Application,* Database Design, Fall 2003.

Lucas Chaney, *A Genetic Algorithm for the Development of Heuristic Weights for Play of a Strategic Game,* Artificial Intelligence, Spring 2003.

David Dembinski, *Rudimentary Moralizing System (RMS)*, Artificial Intelligence, Spring 2003

Luke Hodgkinson, *An Expert System for Credit Evaluation and Explanation,* Artificial Intelligence, Spring 2003. Presented at the 2004 CCSC Midwest Conference and subsequently published in the *Journal of Computing Sciences in Colleges,* volume 19, number 1, pp. 62-72, October 2003.

Ryosuke Kadoi, *The Limitation of Simple Back-Prop Artificial Neural Networks: Hand-Printed Character Recognition,* Artificial Intelligence, Spring 2003.

Cameron Sowa, *Gin Rummy,* Artificial Intelligence, Spring 2003.

Jennifer Williams, *Soccer Defensive Strategy: A Heuristic and Features Based Approach,* Artificial Intelligence, Spring 2003.

Jason Wray, *Information Extraction from English Text using the Rete Method for Both DCG Parsing and Post-Parsing Deduction,* Artificial Intelligence, Spring 2003.

Clay Archer, *Removing the Need for Hand-Eye Coordination – Developing an Eye-motion Tracker*, Computer Vision, Fall 2002.

Cory Boyer, *Character Segmentation and Recognition in Non-Optimal Environments,* Computer Vision, Fall 2002.

Rob Gotschall, *Recreation of a Pose Using Colored Sensors and a Graphics System,* Computer Vision, Fall 2002.

Keith Barton, *Free-form Searching in Text Databases,* Database Design, Fall 2001.

Kris Haines, *Database Mapping*, Database Design, Fall 2001.

Diana Kirby, *Query Relaxation and Approximation through CoBase,* Database Design, Fall 2001.

Jeff Hodge, *A Networked File System for NACHOS,* Operating Systems, Fall 2001.

Jake Misencik, *Process Synchronization over a Network,* Operating Systems, Fall 2001.

Adrian Wenzel, *System Administration and Expert Systems*, Artificial Intelligence, Spring 2000.

Brent Pliskow, *RoboTAG: Using Autonomous Mobile Robots to Simulate a Childhood Game,* Artificial Intelligence, Spring 2000.

Mary Beth Housley, *Beyond ELIZA: An Interactive Diagnostic System for Common Types of Depression,* Artificial Intelligence, Spring 2000.

Greg Nilsen, *Artificial Intelligence in Sports: A Study Upon American Football,* Artificial Intelligence, Spring 2000. Presented at the 8th Annual ECCC Student Research Conference at Heidelberg College, February 2001.

Kenji Okuma, *Toward Object Recognition in a Fuzzy System*, Artificial Intelligence, Spring 2000.

Computer Systems Management Capstone Projects

These projects, including formal proposal, paper and oral presentation, were required for all students in the Computer Systems Management Major in the Weekend College at Hiram College. All projects were co-advised with Oberta Slotterbeck and Jane Rose.

Jonathan Price, *The Master Schedule Database Development Project for Saint-Gobain Crystals – What Not to Do*, Spring 2005.

Michelle Stewart, *Reporting Point Solutions Capstone Project*, Spring 2005.

Christopher Krysinski, *Database System for Irene's Health Bakery, Inc.*, Spring 2005.

Eric Pelley, *RoHS /Analyzer Tool Development & Transition Process Using FIFO Techniques*, Spring 2005.

Karen Skrobut, *Patch Management,* Fall 2004.

Leslie A. White, *Software License Management System A.K.A. SLiMS*, Fall 2004.

Robert Hoffman, *Web-Based Scheduling Software,* Fall 2004.

Don Fisher, *Disaster Recovery Plan Used for Outsourcing*, Spring 2004.

Janet Roberts, *Resurrection and Evolution of SDR,* Spring 2004.

Judy Williams, *The Byas and Heating Concepts Database Project*, Spring 2004.

Robert Allen, *The Board Marking System for Printed-Circuit Boards,* Spring 2003.

Peter Balint, *Enhancing Job Posting Procedures at the Lerner Research Institute,* Spring 2003.

Theresa Ann McGhee, *QT Pomeranian Database,* Spring 2003.

Kevin Nichol, *Rebuilding the Call Report System at General Electric as a Web- Based Application,* Spring 2003.

Mishael A. Reese, *Migrating Legacy Data into Oracle,* Spring 2003.

Neal Sabo, *DCS Meter Testing Software to SAP Interface,* Spring 2003.

Eric A. Yeager *Managing a Preventative Maintenance Management Software Installation,* Spring 2003.

Lynda Canty, *The Women's Initiatives in Leadership Database Project,* Spring 2003.

Allen Harshbarger, *The Integration of the Weekend College Database with Banner,* Spring 2003.

Scott A. McDole, *Palm Pilot Interface to the Biology Department Pheneology Study Database,* Spring 2003.

Theresa (Tess) Palmer, *The Implementation of the Skin Zone Database,* Spring 2003.

Walter Pechenuk, *Paper, Plastic, or Both? - Exploring a Way of Presenting Office- Hours Information,* Spring 2003.

Tracey Elizabeth Guice, *Creating a User-Friendly Interface to a Database Designed to Track Minority Students at the University of Chicago,* Spring 2003.

John Shanahan, *Helping a Small Business Stay Competitive*, Spring 2002.

Denise Morenz, *Tracking Defects for the Special Lines Team at Progressive Insurance*, Spring 2002.

Melissa Fransko, *Resource Assistance Database for Progressive Insurance*, Spring 2002.

William Finzel, *A System Monitoring Tool Upgrade - Focus on Sun Remote Services*, Spring 2002.

Rick Decker, *Using the Test Lead Website as an Effect Communication and Cost Saving Tool*, Spring 2002.

Margaret Carney, *The FedExNet Integrated Messaging Migration Project*, Spring 2002.

Doug Barstow, *A Database for Local Restaurants*, Spring 2002.

Brian A. Barile, *Implementing a Freight Database for Alcan*, Fall 2001.

Dan Gress, *Rapid Specification Development: A Lean Enterprise Technique for Reducing Product Development Time*, Fall 2001.

Amy Feichtner. *Remedy vs TrackIT-Which Help Desk Application is Best for Hiram College?,* Spring, 2001.

Amy Bultinck, *Restructuring a Website as a Pro-Active Communication Tool*, Spring, 2001.

Lucretia May, *Modifying the Ordering and Billing System at Edgepark Surgical, Inc.*, Spring, 2001.

Elizabeth C. Zieber, *Corporate Firewall Re-Design Implementing Check Point FW-1 and Nokia Network Appliances*, Spring, 2001.

Robert Trinnes, *Six Sigma Defect Cost Database for Rockwell Automation*, Fall, 2000.

Patrica Bowman, *Developing a Web Interface for Engineers and Management to use the Advanced Automation Services Datebase at ABB Automation, Inc.*, Spring 2000.

UNDERGRADUATE AND GRADUATE ADVISING:

2006-2007	Undergraduate academic advisor, Hiram College, 5 seniors, 1 junior
2005-2006	Undergraduate academic advisor, Hiram College, 7 seniors, 6 juniors
2004-2005	Undergraduate academic advisor, Hiram College, 7 seniors, 5 juniors, 9 sophomores
2001-2004	Weekend College advisor, Hiram College
2003-2004	Undergraduate academic advisor, Hiram College, 5 seniors, 8 juniors 4 sophomores, and 13 freshmen
2002-2003	Undergraduate academic advisor, Hiram College, 5 seniors, 6 juniors 7 sophomores, and 2 freshmen
2001-2002	Undergraduate academic advisor, Hiram College, 2 seniors, 5 juniors and 4 sophomores
2000-2001	Undergraduate academic advisor, Hiram College, 3 seniors, 2 juniors, and 11 sophomores
1999-2000	Undergraduate academic advisor, Hiram College, 4 seniors, 5 juniors, 5 sophomores, and 15 freshmen
1998-1999	Undergraduate academic advisor, Hiram College, 3 juniors and 2 sophomores
1997-1998	Undergraduate academic advisor, Hiram College, 2 seniors and 1 sophomore
1990–1996	Undergraduate academic advisor, Department of Computer Science, Rensselaer Polytechnic Institute, average of 17 students per year.
1989–1996	Graduate academic advisor, Department of Computer Science, Rensselaer Polytechnic Institute, average of 4 students per year.

ORGANIZATION OF WORKSHOPS AND STUDENT ACTIVITIES:

May 2003	Organized and presented “Computer Science Day” activity for students attending the Intel Science and Engineering Fair in Cleveland.
February 2003	Organized and presented “Computer Science Day” for high school students (with Oberta Slotterbeck and help from Shawn Brown)
November 1995	Organized “activity day” for 20 high school girls.
October 1995	Organized workshop for high school teachers.
Summer 1995	Organized two-week residential program to introduce 20 high school girls to computer science.
Summer 1995	Organized ten-week summer research program for 8 undergraduate women in computer science.
June 1995	Organized planning meeting with high school teachers for summer program.
May 1995	Organized workshop for high school teachers.
April 1995	Organized “activity day” for 18 high school girls.
January 1995	Organized workshop for high school teachers.
January 1995	Organized “activity day” at Rensselaer, bringing 44 high school girls to campus for hands-on activities.

October 1994	Organized workshop for high school teachers.

COMMITTEE WORK:

Hiram College

March 2005 – Present	Member, Technology Task Force (subcommittee of Strategic Planning Committee), Hiram College
July 1997 – Present	Member, Technology Advisory Committee, Hiram College (Chair, September 2000 – August 2004)
February 2006 – Present	Member, Category 3 & 4 Subcommittee for General Education (Chair, September 2006 – present)
Spring 2006 – Present	Observer, Classroom Observation Program, Hiram College
September 2004 – May 2005	Member Committee on Programs in Ethics and Values, Hiram College
April 2004 – December 2004	Member, Program Prioritization Subcommittee of the Strategic Planning Committee, Hiram College
August 2002 – December 2004	Member, Banner Training Team, Hiram College
September 2000 – June 2004	Member, Integrated College Information System Committee, Hiram College
September 2001 – June 2003	Member, Staff Succession Committee, Hiram College
April 2003 – June 2003	Member, Academic Program Committee
Spring 2003	Observer, Classroom Observation Program, Hiram College (2 courses)
March 2001 - December 2001	Member, Computer Center Director Search Committee, Hiram College
September 2000 – June 2001	Member, Faculty-Trustee Committee Hiram College
September 1999 – June 2001	Member, College Life Steering Committee, Hiram College
September 1997 – June 1999	Member, Enrollment Operations Policy Committee, Hiram College
November 1997 – June 1998	Member, Ad-Hoc Committee on Masters Level Programs, Hiram College
January 1997– June 1997	Member, ITPAC (Information Technology Policy Advisory Committee), Hiram College

Rensselaer Polytechnic Institute

September 1993 – June 1996	Member, Graduate Curriculum Committee and reviewer of graduate applications, Computer Science Department, Rensselaer Polytechnic Institute
July 1991 – June 1996	Member, PhD Qualifier Committee, Computer Science Department, Rensselaer Polytechnic Institute
May 1995 –	Senator, Faculty Senate, Rensselaer Polytechnic Institute

December 1995	
September 1993 – August 1994	Member, Graduate Admission Committee, Computer Science Department, Rensselaer Polytechnic Institute
July 1992 – August 1994	Member, New Staff Committee, Computer Science Department, Rensselaer Polytechnic Institute
July 1991 – June 1992	Chair, Colloquium Committee, Computer Science Department, Rensselaer Polytechnic Institute
September 1990 – July 1992	Member, Curriculum Committee, School of Science, Rensselaer Polytechnic Institute

OTHER SERVICE AND ADMINISTRATIVE ACTIVITIES

Hiram College

January 1999 – Present	Co-supervisor, Computer Science UNIX laboratory system administration (with O. Slotterbeck (1999-present) and M. Atwah (1999-2002))
September 1996 – Present	Co-advisor, Hiram ACM (with O. Slotterbeck (1996-present) and M. Atwah (1999-2002))
November 1997 - November 2006	Coached and chaperoned team for the ACM Programming Contest (with O. Slotterbeck (1997); M. Atwah (1999-2001); I. Lomonosov (2003, 2004))
April 2005	Organized delegation to Ohio Celebration of Women in Computing, including 2 undergraduate presenters and 2 other attendees.
October 2002	Organized delegation to Grace Hopper Celebration of Women in Computing
September 2000	Organized delegation to Grace Hopper Celebration of Women in Computing (with O. Slotterbeck)
June 1997	Organized delegation to Grace Hopper Celebration of Women in Computing (with O. Slotterbeck)

Rensselaer Polytechnic Institute

January 1990 – June 1996	Organized regular luncheon meetings of women graduate and undergraduate students (at least one per semester) (with S. Rodger until July 1994)
June 1994	Organized delegation to Grace Hopper Celebration of Women in Computing
August 1991 – August 1995	Participated in New Student Computer Orientation

COMMUNITY AND PUBLIC SERVICE

September 2004 - February 2007	Hiram College AAUP President
September 2000 – May 2003	Hiram College representative, Northeast Ohio Council on Higher Education Instructional Technology Committee
November 1997 – Present	Alumnae Mentor, Women in Science and Engineering, Brown University, Providence, RI
December 1996 – June 1997	Telementor, Educational Development Center / Center for Children and Technology's *Telementoring Young Women in Science, Engineering and Computing Project.*
June 1996	Publicity co-chair, Donor dinner, Temple Beth El Sisterhood, Troy, NY

July 1995 – July 1996	Member, Religious Committee, Temple Beth El, Troy NY
June 1995	Publicity co-chair, Donor dinner, Temple Beth El Sisterhood, Troy, NY
March 1995	Judged science fair at Holy Spirit School, East Greenbush, NY
January 1995	Co-organizer and presenter, "The Jewish Information Superhighway", lecture and demonstration, Temple Beth El, Troy, New York.
September 1994 – July 1996	Co-Editor of the *Kol Beth El* newsletter, Temple Beth El, Troy, NY
March 1992	Judged 6th grade science fair at School 24, Albany, NY

GRANT ACTIVITY:

January 2007	"Machine Learning Experiences in Artificial Intelligence", submitted to National Science Foundation CCLI Program, $5600. (Senior Personnel. Ingrid Russell and Zdravko Markov, PI's).
May 2005	"Supplementary Donation (Quartus Software license subscriptions and EPM128SLC84-7 Devices)", Altera University Program, $14995.
March 2004	"Upgrading Lego Mindstorms Hardware and Software," Women's Council for Hiram College, $450.
June 2000 – May 2003	"Extending Software Engineering Beyond Physical and Curricular Boundaries," National Science Foundation CCLI-A&I Program, $69,140 to support laboratory and course development (with O. Slotterbeck).
June 2002	"Student Delegation to the Grace Hopper Celebration of Women in Computing," Hiram College Fiat Lux fund, $2000.
January 2002	"Investigating Connections between Computer Science and Art," Hiram College Fiat Lux fund, $5000.
December 1999	"Altera MAX+PLUS II Software and Design Lab Package," Altera University Program, $2695.
August 1999	"Lego Mindstorms Kits for First-Year Colloquium," received 6 kits (total value $1200) from Allen Kannapell, Hiram Trustee.
May 1999	SEED Program, Rational Software, received Rational Suite software package worth $14,995 (with O. Slotterbeck).
April 1999	Gund-Gerstacker Summer Stipend for research combining Computer Vision and Fuzzy Logic, Hiram College, $2000.
April 1998	Gund-Gerstacker Summer Stipend to develop course on Computer Vision, Hiram College, $2000.
March 1998	"Components for Student-built Computer," Women's Council for Hiram College, $445.
September 1997	Scholarships for 3 women students to attend the Grace Hopper Celebration of Women in Computing, USENIX Association, $2,190.
June 1997	Travel Scholarship to attend Workshop on Undergraduate Education and Image Computation, National Science Foundation, $1,300.
October 1992 – December 1996	"Automated Image Interpretation," General Electric Corporate Research and Development, $374,600, supporting 10% chargeout and 1 Research Assistant each year.
Summer 1995	Computing Research Association Distributed Mentor Project, selected to mentor one woman for summer undergraduate research, $5,000.
September 1994 –	"Connecting Women Across the Computer Science Pipeline: From High School through the

August 1995	Ph.D.," National Science Foundation, received 12-month funding of $104,963, supporting 5% chargeout, 3 weeks summer, 2 summer Research Assistants, 12-month ITS assistance, and participant costs for academic-year and summer programs (with S. Rodger).
Summer 1994	Computing Research Association Distributed Mentor Project, selected to mentor one woman for summer undergraduate research, $5,000.
September 1993	"Integrating Mid-level and High-level Computer Vision into a Single Knowledge-based System," General Electric Foundation, received $25,000 General Electric Foundation Faculty Development Grant, supporting 6 weeks summer and 1 summer Research Assistant.
January 1992 – May 1992	"Fellowship Support for Graduate Student Working on Invariant Theory," General Electric Corporate Research and Development, received 5-month funding of $4600, supporting 1 Research Assistant.
November 1991	"Active Range Sensor and Image Library Facility for Computer Vision Research," AT&T Foundation, Special Purpose Grants in Science and Engineering Program, received $30,000, supporting laboratory equipment: 1 K^2R range sensor and 1 Pinnacle rewritable optical drive.
July 1991 – June 1992	"An Approach to Robotic Aids to the Handicapped Based on Incremental Autonomy: Computer Vision Algorithms," New York Center for Advanced Technology in Automation and Robotics, received 12-month funding of $25,702, supporting 10% academic-year chargeout and 4 weeks summer (with C. Stewart).
July 1991 – December 1992	"Research Experiences for Undergraduate Supplement," National Science Foundation as a supplement to "Knowledge-based Sensor Integration," received 7-month funding of $3,750, supporting 1 undergraduate Research Assistant.
July 1990 – June 1992	"Knowledge-based Sensor Integration", National Science Foundation Research Initiation Award, received 24-month funding of $56,760, supporting 8 weeks summer and 1 Research Assistant.

BOOKS & MONOGRAPHS:

E.L. Walker (ed), *Proceedings of the 22nd International Conference of the North American Fuzzy Information Processing Society – NAFIPS*, Piscataway, NJ: IEEE Press, 2003.

J.S. Liu, E.L. Walker, and J.L. Mundy, "Characterizing the Stability of 3D Invariants Derived from Translational Symmetry," in *Recent Progress in Computer Vision (Lecture Notes in Computer Science*), S-Z. Li, ed., Springer-Verlag, 1995.

E.L. Walker, M. Herman, and T. Kanade, "A Framework for Representing and Reasoning about Three-Dimensional Objects for Vision," in *Advances in Spatial Reasoning*, volume 1, Su-shing Chen, ed., Norwood, NJ: The Ablex Publishing Corporation, 1990.

E.L. Walker and M. Herman, "Geometric Reasoning for Constructing 3D Scene Descriptions from Images," in *Geometric Reasoning*, Deepak Kapur and Joseph Mundy, eds., Cambridge, MA: The MIT Press, 1989.

ARTICLES:

(Many recent publications are available online at http://cs.hiram.edu/~walkerel/pubs)

In my field, most conference publications are refereed based on the full paper.

E.L. Walker and L. Braver, "Robots in an Interdisciplinary Course in the Liberal Arts," in *AAAI Symposium: Robots and Robot Venues: Resources for AI Education*, Stanford, CA March 2007.

S. Steinfadt and E.L. Walker, "Don't Panic: Friendly Advice on Teaching Your First Course as a Graduate Assistant," in *Proceedings of the Midwest Celebration of Women in Computing*, October 2006.

E.L. Walker and O.A. Slotterbeck, "Integrated Research Components: A Practical and Effective Alternative to Senior Projects" *Journal of Computing Sciences in Colleges,* volume 22, number 1, pp. 72-83, October 2006.

E.L. Walker, "Lego Mindstorms Robotics in a (Very) Small Liberal Arts College," in *AAAI Symposium: Accessible Hands-on Artificial Intelligence and Robotics Education*, Stanford, CA March 2004.

E.L. Walker and O.A. Slotterbeck, "Supporting Large Projects in a Small College Computer Systems Management Program," *Journal of Computing Sciences in Colleges,* volume 19, number 1, pp 113-121. October 2003.

L. Hodgkinson and E.L. Walker, "CEES: Credit Evaluation Expert System," *Journal of Computing Sciences in Colleges,* volume 19, number 1, pp. 62-72, October 2003.

E.L Walker, " Image Retrieval on the Internet - How Can Fuzzy Help?," in *Proceedings of the Annual Conference of the North American Fuzzy Information Processing Society [NAFIPS '02]*, New Orleans, LA, pp. 526-528, June 2002.

E.L. Walker and O.A. Slotterbeck, "Incorporating Realistic Teamwork into a Small College Software Engineering Curriculum," *Journal of Computing in Small Colleges,* volume 17, number 6, pp. 115-123, May 2002.

E.L. Walker, "'Robots: Fantasy and Reality' — A First-Year Colloquium," in *Working Notes of the AAAI Symposium: Robotics and Education,* Stanford, CA, March 2001.

E.L Walker and K. Okuma, "Automatic Extraction of Invariant Features for Object Recognition," in *Proceedings of the Annual Conference of the North American Fuzzy Information Processing Society [NAFIPS '00]*, Atlanta, GA, pp. 163-167, June 2000.

E.L. Walker, "PipeLINK: Encouraging High School Girls to Pursue Computer Science through Mentoring," position paper for Workshop on Improving and Assessing the Impact of Programs to Encourage High School Girls to Pursue Science Engineering and Mathematics, Santa Clara, CA, 1999. http://www.scu.edu/SCU/Projects/NSFWorkshop99/

E.L Walker, "Combining Geometric Invariants with Fuzzy Clustering for Object Recognition," in *Proceedings of the Annual Conference of the North American Fuzzy Information Processing Society [NAFIPS '99*], New York, NY, pp.571-574, June 1999.

E.L. Walker and L. Browne, "Teaching Web Development with Limited Resources," in *Proceedings of the Thirtieth SIGCSE Technical Symposium on Computer Science Education [SIGCSE '99]*, New Orleans, LA, pp. 12-16, February 1999.

E.L. Walker, "Perspectives on Fuzzy Logic in Computer Vision," in *Proceedings of the Annual Conference of the North American Fuzzy Information Processing Society [NAFIPS '98],* pp. 296-300, August 1998.

E.L. Walker, "A Laboratory-based Internet Course for Non-Majors," *Journal of Computing in Small Colleges,* volume 13, Number 5, pp. 38-53*,* April 1998.

E.L. Walker, "A Fuzzy Approach to Pose Determination," in *Proceedings of the Annual Conference of the North American Fuzzy Information Processing Society [NAFIPS '97*], pp. 183–187, September 1997.

S.H. Rodger and E.L. Walker, "PipeLINK: Connecting Women and Girls in the Computer Science Pipeline," *Journal of Computer Science Education*, volume 11, number 3, pp. 25-29, May 1997. Earlier version in *National Educational Computing Conference [NECC '96]*, Minneapolis, MN, pp. 378-383, June 1996.

E.L. Walker, "Fuzzy Relations for Feature-Model Correspondence in 3D Object Recognition," in *Proceedings of the Annual Conference of the North American Fuzzy Information Processing Society [NAFIPS '96]* , pp.28-32, June 1996.

E.L. Walker, "A Geometric Representation for Functional Recognition," in *Proceedings of the Ninth Florida Artificial Intelligence Research Symposium [FLAIRS '96a],* Key West, FL, pp. 354-358, May 1996.

V. Hammond and E.L. Walker, "Teaching Bayesian Networks through Interactive Exploration," in *Proceedings of the Ninth Florida Artificial Intelligence Research Symposium [FLAIRS '96b]*, Key West, FL, pp. 463-467, May 1996.

S.H. Rodger and E.L. Walker, "Activities to Attract High School Girls to Computer Science," in *Proceedings of the Twenty-Seventh SIGCSE Technical Symposium on Computer Science Education [SIGCSE '96]*, Philadelphia, PA, pp. 373-377, February 1996.

D.A. Vastola and E.L. Walker, "The Design and Implementation of an Interactive Learning Tool for Statistical Reasoning with Uncertainty," *Computers & Education: An International Journal*, vol. 25, No. 4, pp. 193-214, December 1995.

J.S. Liu, E.L. Walker, and J.L. Mundy, "Characterizing the Stability of 3D Invariants Derived from 3D Translational Symmetry," in *Proceedings of the Asian Conference on Computer Vision [ACCV '95]*, Singapore, December 1995. Invited paper.

D.A. Vastola and E.L. Walker, "Interactive Learning Tool for Statistical Reasoning with Uncertainty," *ACM SIGART Bulletin*, *6:* 2, 1995. Expanded version available as Technical Report 95-4, Computer Science Department, Rensselaer Polytechnic Institute.

E.L. Walker, "Fuzzy Reasoning for Decision-Making in Object Recognition," *in Proceedings of the Third International Symposium on Uncertainty Modeling and Analysis and the Annual Conference of the North American Fuzzy Information Processing Society [NAFIPS '95],* pp. 163-168, College Park, MD: IEEE Computer Society Press, September 1995 (solicited paper).

E.L. Walker, "The Use of Computers for Teaching Artificial Intelligence at Rensselaer," *in Working Notes of the AAAI Symposium: Improving Instruction of Introductory Artificial Intelligence*, pp. 47-50, New Orleans, LA, November 1994.

D.A. Vastola and E.L. Walker, "Interactive Learning Tool for Statistical Reasoning with Uncertainty," *in Working Notes of the AAAI Symposium: Improving Instruction of Introductory Artificial Intelligence*, pp. 58-62, New Orleans, LA, November 1994.

H.-B. Kang and E.L. Walker, "Multilevel Grouping: Combining Bottom-Up and Top-down Reasoning for Object Recognition," in *Proceedings of the 12th IAPR International Conference on Pattern Recognition [ICPR '94]*, Jerusalem, Israel: IEEE Computer Society Press, pp. 559-562, October 1994.

H.-B. Kang and E.L. Walker, "Characterizing and Controlling Approximation in Hierarchical Perceptual Grouping," *Fuzzy Sets and Systems* vol. 65, pp. 187-223, August 1994.

E.L. Walker and H.-B. Kang, "Fuzzy Measures of Uncertainty in Perceptual Grouping," in *Proceedings of the Third IEEE International Conference on Fuzzy Systems [FUZZ-IEEE '94]*, Orlando, FL: IEEE Press, pp. 2020-2024, June 1994.

J.S. Liu, J.L. Mundy, and E.L. Walker, "Recognizing Arbitrary Objects from Multiple Projections," in *Proceedings of the Asian Conference on Computer Vision [ACCV '93]*, pp. 422-426, Osaka, Japan, November 1993.

E.L. Walker, "Knowledge-Based Image Understanding Using Incomplete and Generic Models," in *Proceedings of the IEEE Computer Society International Conference on Computer Vision and Pattern Recognition '93 [CVPR '93]*, New York, New York: IEEE Computer Society Press, pp. 699-700, June 1993.

H.-B. Kang and E.L. Walker "Perceptual Grouping Based on Fuzzy Sets," in *Proceedings of the IEEE International Conference on Fuzzy Systems [FUZZ-IEEE '92]*, San Diego, CA: IEEE Press, pp. 651-660, March 1992.

E.L. Walker and T. Hivnor, "Knowledge-Based 3D Reconstruction from Multiple Segmented Images," in Proceedings of the SPIE Conference on Intelligent Robots and Computer Vision XI: Neural, Biological, and 3-D Methods, pp. 409-417, Boston, MA, November 1992 (solicited paper).

E.L. Walker, "Applying Geometric Sensor and Scene Models for Range Image Understanding," in Proceedings of the SPIE Conference on Intelligent Robots and Computer Vision X: Neural, Biological, and 3-D Methods, pp. 13-23, Boston, MA, November 1991 (solicited paper).

E.L. Walker, "Exploiting Geometric Relationships for Object Modeling and Recognition," in Proceedings of the SPIE Conference on Intelligent Robots and Computer Vision IX: Neural, Biological, and 3-D Methods, pp. 353-363, Boston, MA, November 1990 (solicited paper).

E.L. Walker, and M. Herman, "Geometric Reasoning for Constructing 3D Scene Descriptions from Images," *Artificial Intelligence* 37: 275-290, December 1988.

E.L. Walker, M. Herman, and T. Kanade, "A Framework for Representing and Reasoning about Three-dimensional Objects for Vision," *AI Magazine 9*(2): 47-58, Summer 1988.

E.L. Walker, M. Herman, and T. Kanade, "A Framework for Representing and Reasoning about Three-dimensional Objects for Vision," in *Proceedings of the AAAI Workshop on Spatial Reasoning and Multisensor Fusion*, St. Charles, IL: Morgan Kaufmann Publishers, pp. 21-33, October 1987.

R.N. Nagel, G.J. VanderBrug, J.S. Albus, and E. Lowenfeld, "Experiments in Part Acquisition Using Robot Vision," *Robotics Today*, Winter 1980-81.

PROFESSIONAL AND PUBLIC LECTURES:

Research-Oriented Presentations

December 2002	"Recognizing Objects in Computer Images," Department of Mathematics and Computer Science, Oberlin College, Oberlin, OH. Invited presentation.
June 2002	"Image Retrieval on the Internet – How Can Fuzzy Help?" Annual Conference of the North American Fuzzy Information Processing Society, New Orleans, LA.
July 2000	"Automatic Extraction of Invariant Features for Object Recognition," Annual Conference of the North American Fuzzy Information Processing Society, Atlanta, GA.
June 1999	"Combining Geometric Invariants with Fuzzy Clustering for Object Recognition," Annual Conference of the North American Fuzzy Information Processing Society, New York, NY.
August 1998	"Perspectives on Fuzzy Logic in Computer Vision," Annual Conference of the North American Fuzzy Information Processing Society, Pensacola Beach, FL.
May 1998	"A Fuzzy Approach to Pose Determination," DROOL Summer Research Program, Department of Computer Science, Duke University, Durham, NC. Invited presentation.
September 1997	"A Fuzzy Approach to Pose Determination," Annual Conference of the North American Fuzzy Information Processing Society, Syracuse, NY.
June 1997	"Recognizing Objects in Computer Images," Department of Mathematics and Computer Science, Kalamazoo College, Kalamazoo, MI. Invited presentation.
June 1996	"Fuzzy Relations for Feature-Model Correspondence in 3D Object Recognition," Annual Conference of the North American Fuzzy Information Processing Society, Berkeley, CA.
May 1996	"A Geometric Representation for Functional Recognition," Ninth Florida Artificial Intelligence Research Symposium, Key West, FL.
May 1996	"Recognizing Objects in Computer Images," Department of Mathematical Sciences, Hiram College, Hiram, OH. Invited presentation.
April 1996	"Object Recognition Using Geometric Constraints," Department of Mathematics, Statistics, and Computer Science, Loyola University of Chicago, Chicago, IL. Invited presentation.
September 1995	"Fuzzy Reasoning for Decision Making in Object Recognition," Joint Conference of the Third International Symposium on Uncertainty Modeling and Analysis and the Annual Conference of the North American Fuzzy Information Processing Society, College Park, MD.
October 1994	"Applications of Fuzzy Logic in Perceptual Grouping," Department of Systems Science & Industrial Engineering, State University of New York at Binghamton, Binghamton, NY. Invited presentation.
October 1994	"Multilevel Grouping: Combining Bottom-Up and Top-Down Reasoning for Object Recognition," International Conference on Pattern Recognition, Jerusalem, Israel. Poster presentation.
June 1994	"Fuzzy Measures of Uncertainty in Perceptual Grouping," IEEE International Conference on Fuzzy Systems, Orlando, FL. Poster presentation.

June 1994 "Geometric Representation to Support Functional Recognition," Workshop on the Role of Functionality in Object Recognition at the IEEE Computer Society Conference on Computer Vision and Pattern Recognition, Seattle, WA.

May 1994 "Applications of Generic Modeling with Incomplete Representations in Computer Vision," Computer Science Department, University of Massachusetts, Amherst, MA. Invited presentation.

June 1993 "Knowledge-based Image Understanding Using Incomplete and Generic Models," IEEE Computer Society International Conference on Computer Vision and Pattern Recognition '93, New York, NY. Poster presentation.

November 1992 "Knowledge-Based 3D Reconstruction from Multiple Segmented Images," SPIE Conference on Intelligent Robots and Computer Vision XI: Neural, Biological, and 3-D Methods, Boston, MA.

June 1992 "Extracting Structures using Fuzzy-Based Perceptual Grouping," Western New York Fuzzy Logic Conference, Rochester, NY. Invited presentation.

November 1991 "Applying Geometric Sensor and Scene Models for Range Image Understanding," SPIE Conference on Intelligent Robots and Computer Vision X: Neural, Biological, and 3-D Methods, Boston, MA.

September 1991 "Geometric Constraints and the Representation of Model and Image Data," New York State Center for Advanced Technology in Automation and Robotics, Rensselaer Polytechnic Institute. Invited presentation.

August 1991 "Model Based Computer Vision," Young Scholars Program, Rensselaer Polytechnic Institute.

February 1991 "3D FORM: Representing and Reasoning about Objects for Model-Based Computer Vision," Russell Sage College. Invited presentation.

November 1990 "Exploiting Geometric Relationships for Object Modeling and Recognition," SPIE Conference on Intelligent Robots and Computer Vision IX: Neural, Biological, and 3-D Methods, Boston, MA.

July 1989 "Using the 3D FORM System to Interpret Sensory Data," Texas Instruments, Dallas, TX. Invited presentation.

July 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," Texas Instruments, Dallas, TX. Invited presentation.

May 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," Department of Computer and Information Science, Ohio State University. Invited presentation.

May 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," School of Electrical Engineering, Purdue University. Invited presentation.

April 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," Department of Computer Science, Rensselaer Polytechnic Institute. Invited presentation.

April 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," School of Information and Computer Science, Georgia Institute of Technology. Invited presentation.

March 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," Department of Computer Science, University of North Carolina at Charlotte. Invited presentation.

March 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," Department of Computer Science, University of Illinois. Invited presentation.

February 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," Department of Computer Science, University of Virginia. Invited presentation.

February 1989 "Incremental Reasoning for Construction and Maintenance of a 3D World Model," Department of Computer Science, George Mason University. Invited presentation.

June 1986 "Geometric Reasoning for Constructing 3D Scene Descriptions from Images," Workshop for Geometric Reasoning, Keble College, Oxford University.

Education-Oriented Presentations

April 2007 "Undergraduate Research in the Curriculum," Consortium for Computer Sciences in Colleges: Northeast Conference, Rochester, NY. Panel Presentation. (Amruth Kumar, moderator; Brian Ladd, Ursula Wolz, William Joel, co-presenters.)

March 2007 "Mechanics of Undergraduate Research – Lessons Learned," SIGCSE Technical Symposium on Computer Science Education, Covington, KY. Panel Presentation. (Amruth Kumar, moderator; David Musicant, Doug Baldwin, co-presenters.)

October 2006 "Integrated Research Components: A Practical and Effective Alternative to Senior Projects," Thirteenth Annual Consortium for Computer Science in Colleges: Midwest Conference, Greencastle, IN.

March 2006 "Integrated Research Components: Ensuring That All Students Can Have a Research Experience," SIGCSE Technical Symposium on Computer Science Education, Norfolk, VA. Poster presentation.

October 2005 "Three Spreadsheets for Assessment," presented at the CCSC:MW 2005 Nifty Assignments and Tools Panel, Twelfth Annual Consortium for Computer Science in Colleges: Midwest Conference, Decatur, IL. Panel Presentation. (Cathy Bareiss, moderator)

October 2004 "Developing Senior Capstone Projects," Eleventh Annual Consortium for Computer Science in Colleges: Midwest Conference, Kalamazoo, MI. Panel Presentation. (Robert Beasley, moderator; J. William Cupp and Dean Sanders, co-presenters.)

March 2004 "Lego Mindstorms Robotics in a (Very) Small Liberal Arts College," AAAI Symposium: Accessible Hands-on Artificial Intelligence and Robotics Education, Stanford, CA.

March 2004 "Survivor: Getting Through That Class the First Time," SIGCSE Technical Symposium on Computer Science Education, Norfolk, VA. Poster presentation.

October 2003 "Supporting Large Projects in a Small College Computer Systems Management Program," Tenth Annual Consortium for Computer Science in Colleges: Midwest Conference, Granville, OH.

February 2003 "Survivor: Getting Through That Class the First Time," SIGCSE Technical Symposium on Computer Science Education, Reno, Nevada. Panel presentation. (James Huggins, moderator; Joseph Bergen and James Caristi, co-panelists).

April 2002 "Incorporating Realistic Teamwork into a Small College Software Engineering Curriculum," Consortium for Computing in Small Colleges Seventh Annual Northeast Conference, Worcester, MA. Best paper nominee.

March 2001 "'Robots: Fantasy and Reality' - A First-Year Colloquium," American Association of Artificial Intelligence Symposium on Robotics and Education, Stanford, CA.

February 2001 "Extending Software Engineering Teamwork Beyond Physical and Curricular Boundaries," SIGCSE Technical Symposium on Computer Science Education, Charlotte, NC. Invited poster presentation as part of the NSF CCLI Project Showcase.

January 2000 "Robots in the First-Year Colloquium," Hiram College Board of Visitors, Hiram OH. Invited presentation.

October 1999 "Robots in the First-Year Colloquium," Hiram College Alumni Executive Board, Hiram OH. Invited presentation.

September 1999 "Robots in the First-Year Colloquium," Hiram College President's Council on Science Initiatives Fall Meeting, Hiram OH. Invited presentation.

August 1999	"PipeLINK: Best Practices and Lessons Learned," NSF-sponsored Workshop on Improving and Assessing the Impact of Programs to Encourage High School Girls to Pursue Science Engineering and Mathematics, Santa Clara, CA.
March 1999	"Teaching Web Development with Limited Resources," SIGCSE Technical Symposium on Computer Science Education, New Orleans, LA.
April 1998	"A Laboratory-based Internet Course for Non-Majors," Consortium for Computing in Small Colleges Third Annual Northeast Conference, Fairfield CT.
March 1998	"Designing a Course Web Page," Hiram College Faculty Technology Discussion Workshop, Hiram, OH. Invited presentation & demonstration.
June 1996	"PipeLINK: Connecting Women and Girls in the Computer Science Pipeline," 1996 National Educational Computing Conference, Minneapolis, MN.
March 1996	"Interactive Tools for Teaching Uncertainty in Artificial Intelligence," Workshop on Interactive Tools for Teaching Computer Science, Duke University, Durham, NC. Invited presentation.
February 1996	"Activities to Attract High School Girls to Computer Science," SIGCSE Technical Symposium on Computer Science Education, Philadelphia, PA.
December 1995	"The PipeLINK Program: Attracting and Retaining Women in Computer Science," NSF Conference on Women & Science: Celebrating Achievements, Charting Challenges, Washington, DC. Invited poster presentation.
November 1994	"The Use of Computers for Teaching Artificial Intelligence at Rensselaer," AAAI Symposium on Improving Instruction of Introductory Artificial Intelligence, New Orleans, LA.
August 1991	"Fundamental Structures of Computer Science: Integrating Theory and Practice at the Sophomore Level," Workshop on Current Trends in Computing for High School Teachers, Rensselaer Polytechnic Institute. Invited presentation.

Outreach and Professional Development Presentations

October 2006	"Getting What You Need," Consortium of Associate Professors Project, Fort Meyers, FL. Invited presentation (with Ingrid Russell, University of Hartford).
March 2006	"ACM's 2005 A.M. Turing Award," Hiram College.
February 2006	"Robots in the Real World," Kent State University, Stark Campus. Invited Presentation.
February 2006	"How Flat is the Silicon World? Perspectives on the Semiconductor Industry," Library Forum, Hiram College.
September 2005	"Authority and Freedom in Academic Computing Systems," Ethics Teach-In: Authority and Questioning, Hiram College (with Valerian Anderson).
April 2005	"Industry Panel", Ohio Celebration of Women in Computing, Mt. Sterling, Ohio. (Panel organizer and moderator).
October 2004	"Can Computers See?" (Presentation to Connecting with Science Seminar), Hiram College
September 2004	"You Want It -- They Want to Make You Pay! Considering Policies on Sharing Computer Files and Software," Morality & Law Teach-In, Hiram College.
February 2004	"CyberTerrorism," (Presentation to FSEM class), Hiram College.
February 2004	"Artificial Intelligence" (Presentation to grades 5-8), Birchwood School, Cleveland, OH.
September 2003	"Malware: How to Bring Down the Internet with Just a Few Lines of Code," POWER Lunch Discussion, Hiram College.
April 2003	"Robots: Our New Best Friends?," Focus Day, Hiram College.
September 2001	"Internships in Computer Science," (Panel presentation with O. Slotterbeck, M. Atwah and students), Hiram College ACM, Hiram College.

September 1999	"A Smart Graduate School Application," (Panel presentation with O. Slotterbeck and M. Atwah), Hiram College ACM, Hiram College.
March 1999	"Robots: Fantasy and Reality," Focus Day, Hiram College.
December 1995	"What Do Computer Scientists Do?" Catholic Central High School, Troy, NY. Invited Presentation. (Talk given 5 times.)
October 1995	"Careers in Computer Science," Cohoes High School, Cohoes NY. Invited Presentation.
March 1995	"Women in Computer Science: Contributions, Issues, and Opportunities" Rensselaer Student Chapter of the Association of Computational Machinery. Invited Presentation.
January 1995	"The Jewish Information Superhighway", lecture and demonstration, Temple Beth El, Troy, New York. (Co-organizer and presenter.)
January 1995	"What Do Computer Scientists Do?" Burnt Hills - Ballston Lake High School, Burnt Hills, NY. Invited Presentation.
December 1994	"What Do Computer Scientists Do?" Tamarac High School, Troy, NY. Invited Presentation. (Talk given 4 times.)
December 1994	"What Do Computer Scientists Do?" Shaker High School, Latham, NY. Invited Presentation. (Talk given twice.)
November 1994	"What Do Computer Scientists Do?" Cohoes High School, Cohoes, NY. Invited Presentation. (Talk given 8 times.)
November 1994	"What Do Computer Scientists Do?" Academy of the Holy Names, Albany, NY. Invited Presentation. (Talk given 8 times.)
November 1994	"What Do Computer Scientists Do?" Catholic Central High School, Troy, NY. Invited Presentation. (Talk given 5 times.)
June 1994	"A Smart Graduate School Application," Grace Hopper Celebration of Women in Computer Science, Washington, DC. Panel presentation.
April 1993	"Artificial Intelligence: What is it, Why is it So Hard, and What Has Been Accomplished?" Open House, Rensselaer Polytechnic Institute.
June 1992	"Life After VASC (in Academia)," Carnegie-Mellon University VASC Group Retreat, Pittsburgh, PA. Invited presentation.
April 1992	"Artificial Intelligence: What is it, Why is it So Hard, and What Has Been Accomplished?" Open House, Rensselaer Polytechnic Institute.
April 1991	"Artificial Intelligence: What is it, Why is it So Hard, and What Has Been Accomplished?" Science Day, Rensselaer Polytechnic Institute.
April 1990	"Artificial Intelligence: What is it, Why is it So Hard, and What Has Been Accomplished?" Science Day, Rensselaer Polytechnic Institute.

PUBLISHED INTERVIEWS

2000	Interviewed about use of Lego Mindstorms Robotics in Freshman Colloquium and Artificial Intelligence courses, *The Warren Tribune-Chronicle*, March 26, 2000.
1997	Interviewed about the PipeLINK Program and girls in computer science for *Does Jane Compute: Preserving Our Daughters' Place in the Cyber Revolution*, by Roberta Furger, February 1998.
	Interviewed about the PipeLINK Program, *Technology & Learning*, vol. 17, No. 8, May/June 1997.

1996	Interviewed about girls and computer games, *The Valley Times and The Contra Costa Times*, March 31, 1996.
1995	Interviewed about participation in the Systers E-mail network, *The Los Angeles Times*, March 13, 1995.
	Interviewed about the PipeLINK program, "Community Issues", WKLI / WABY Radio, Albany, NY, January 29, 1995. (30 minute broadcast interview).
	Interviewed about the PipeLINK activity day at Rensselaer and programs to involve more girls in computer science, *The Sunday Gazette*, January 8, 1995.
1992	Interviewed about research applying fuzzy logic to computer vision, *Capital District Business Review*, December 1992.

CONFERENCES AND WORKSHOPS ATTENDED

(Excludes those with presentations listed above)

February 2007	Ohio Celebration of Women in Computing (OCWIC), Mt. Sterling, OH.
September 2006	Midwest Regional Celebration of Women in Computing (MidWIC), Greencastle, IN.
June 2006	Computing Research Association Biennial Conference, Snowbird, Utah, Self-financed.
May 2006	Association of Computing Machinery Awards Banquet, San Francisco, CA. Financed by ACM to attend presentation as the mentor of Jeffrey Adair, Student Research Competition Grand Award Winner.
June 2005	NAFIPS 2005 Ann Arbor, MI. Self-financed.
March 2005	Design Automation and Test in Europe (DATE '05), Munich, Germany. Self-financed.
January 2005	Asia and South Pacific Design Automation Conference (ASP-DAC '05). Shanghai, China. Self-financed.
October 2004	Grace Hopper Celebration of Women in Computer Science, Chicago, IL. Self-financed.
July 2004	NAFIPS 2004 Banff, AB. Partially financed by Hiram College.
July 2003	NAFIPS 2003, Chicago IL. Program Chair; Session Chair. Self-financed.
June 2003	Association of Computing Machinery Federated Computing Research Conference (Turing Award Presentation and Lecture). San Diego, CA. Self-financed.
March 2003	Design Automation and Test in Europe (DATE '03), Munich, Germany. Self-financed.
October 2002	Creating A Network of Leaders (invitational workshop sponsored by AT&T and Lucent on diversity in science, engineering, technology and mathematics), Washington, DC Self-financed.
October 2002	Grace Hopper Celebration of Women in Computer Science, Vancouver, BC. Self-financed.
July 2002	SIGGRAPH 2002 (Computer Graphics conference). Financed by a Fiat Lux Grant from Hiram College.
February 2002	IEEE Computer Society Conference on Software Engineering Education and Training, Covington, KY. Partially financed by an NSF grant.
February 2002	ACM SIGCSE Technical Symposium on Computer Science Education, Covington, KY. Session chair. Partially financed by an NSF grant.
July 2001	IFSA-NAFIPS 2001, Vancouver BC. Partially financed by Hiram College.
February 2001	IEEE Computer Society Conference on Software Engineering Education and Training, Charlotte, NC. Financed by an NSF grant.

February 2001	Minds at Work: 8th Annual ECCC Student Research Conference, Heidelberg College, Tiffin, OH. (Accompanied Gregory Nilsen, who presented "Artificial Intelligence in Sports: A Study Upon American Football.") Financed by Hiram College.
November 2000	Ohio Learning Network WebCT training, Toledo, OH. Financed by Hiram College
October 2000	Ohio 2000 Teaching, Learning & Technology Conference, Dublin, OH. Financed by Hiram College.
September 2000	Grace Hopper Celebration of Women in Computer Science, Hyannis, MA. Partially financed by a grant from the Computing Research Association and partially by Hiram College.
March 2000	ACM SIGCSE Technical Symposium on Computer Science Education, Austin TX. Financed by a Martin Award.
March 2000	IEEE Computer Society Conference on Software Engineering Education and Training, Austin TX. Financed by a Martin Award.
October 1998	Ohio Teaching, Learning and Technology Roundtable, Columbus, OH. Financed by Hiram College.
September 1997	Grace Hopper Celebration of Women in Computer Science, San Jose, CA. Partially financed by Hiram College.
June 1997	GLCA Curriculum Development & Teaching Institute, "Reaching Our Students," Holland, MI. Financed by Hiram College.
June 1997	IEEE Workshop on Undergraduate Education and Image Computation, San Juan, PR. Financed by a Travel Grant from NSF and by matching funds from Hiram College.
June 1997	IEEE Conference on Computer Vision and Pattern Recognition, San Juan, PR. Financed by a Travel Grant from NSF and by Hiram College.
October 1996	ECCC Fall Retreat for New Faculty Members, Bethany, WV. Financed by Hiram College.
June 1996	Computer Vision and Pattern Recognition '96, San Francisco, CA
June 1995	Fifth International Conference on Computer Vision, Boston, MA
June 1994	Computer Vision and Pattern Recognition '94, Seattle, WA
March 1993	1993 IEEE International Conference on Fuzzy Systems, San Francisco, CA
March 1992	1992 IEEE International Conference on Fuzzy Systems, San Diego, CA
April 1991	1991 IEEE International Conference on Robotics and Automation, Sacramento, CA
June 1990	1990 International Conference on Pattern Recognition, Atlantic City, NJ

ACTIVITIES IN PROFESSIONAL SOCIETIES:

2002–present	Member of the Bio-Informatics Technical Committee for the journal *Systems, Man and Cybernetics*
2009	General Chair, Ohio Celebration of Women in Computing (OCWIC 2009)
2008	Publications Chair, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2008)
2007	Posters Co-chair, Grace Hopper Celebration of Women in Computing
2007	Registration Chair, Ohio Celebration of Women in Computing (OCWIC 2007)
2007	Session Chair, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2007)
2007	Judge, Student Research Competition, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2007)

2007	Member, Program Committee for World Conference on Educational Multimedia, Hypermedia, & Telecommunications, sponsored by the Association for the Advancement of Computing in Education (ED-MEDIA 2007)
2007	Member, Program Committee for World Conference on E-Learning in Corporate, Government, Health Care and Higher Education, sponsored by the Association for the Advancement of Computing in Education (E-Learn 2007)
2007	Member, Programme Committee, FLAIRS-20 AI Education Track
2007	Member, Program Committee, 2007 IEEE International Conference on Fuzzy Systems (FUZZ–IEEE 2007)
2007	Member, Program Committee, International Conference on Computer Vision Theory and Applications (VISAPP 2007)
2006	Judge, Student Posters, Midwest Regional Celebration of Women in Computer Science (MidWIC)
2006	Member, Best Paper Review Panel, *IEEE Transactions on Education*
2006	Session Chair, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2006)
2006	Member, Program Committee, 2006 International Conference on Distributed Multimedia Systems (DMS-06)
2006	Member, Program Committee, International Conference on Computer Vision Theory and Applications (VISAPP 2006)
2006	Member, Program Committee, 2006 IEEE International Conference on Fuzzy Systems (FUZZ–IEEE 2006)
2006	Member, Program Committee for World Conference on Educational Multimedia, Hypermedia, & Telecommunications, sponsored by the Association for the Advancement of Computing in Education (ED-MEDIA 2006)
2006	Member, Program Committee for World Conference on E-Learning in Corporate, Government, Health Care and Higher Education, sponsored by the Association for the Advancement of Computing in Education (E-Learn 2006)
1996–2005	Member of Board of Directors, North American Fuzzy Information Processing Society (re-elected in 1999 and 2002)
2005	Program Chair, Ohio Celebration of Women in Computing (OCWIC 2005)
2005	Member, International Program Committee, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS ‘05)
2005	Judge, Student Paper Competition, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '05)
2005	Member, Program Committee, 2005 IEEE International Conference on Fuzzy Systems (FUZZ–IEEE 2005)
2005	Member, Program Committee for World Conference on E-Learning in Corporate, Government, Health Care and Higher Education, sponsored by the Association for the Advancement of Computing in Education (E-Learn 2005)
2004	Member, Program Committee for World Conference on E-Learning in Corporate, Government, Health Care and Higher Education, sponsored by the Association for the Advancement of Computing in Education (E-Learn 2004)
2004	Member, International Program Committee, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS ‘04)

2004	Member, Program Committee for World Conference on Educational Multimedia, Hypermedia, & Telecommunications, sponsored by the Association for the Advancement of Computing in Education (ED-MEDIA 2004)
2004	Judge, Student Research Competition, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2004)
1999-2003	Newsletter Editor, North American Fuzzy Information Processing Society
2003	Program Chair, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '03)
2003	Judge, Student Research Competition, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2003)
2003	Member, Program Committee for World Conference on Educational Multimedia, Hypermedia, & Telecommunications, sponsored by the Association for the Advancement of Computing in Education (ED-MEDIA 2003)
2003	Member, Program Committee for World Conference on E-Learning in Corporate, Government, Health Care and Higher Education, sponsored by the Association for the Advancement of Computing in Education (E-Learn 2003)
2002	Member, Technical Program Committee, 2002 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE '02)
2002	Member, Program Committee for World Conference on E-Learning in Corporate, Government, Health Care and Higher Education, sponsored by the Association for the Advancement of Computing in Education (E-Learn 2002)
2002	Session Chair, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '02)
2002	Session Chair, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2002)
2002	Judge, Student Research Competition, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2002)
2001	Judge, Student Research Competition, SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2001)
2001	Session Chair, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '01)
2001	Session Chair, Conference on Software Engineering Education and Technology (CSEE&T 2001)
2001	Member, Program Committee for World Conference on the WWW and Internet, sponsored by the Association for the Advancement of Computing in Education (WebNet 2001)
2001	Member, International Program Committee, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '01)
2001	Member, Technical Program Committee, 10th IEEE International Conference on Fuzzy Systems (FUZZ-IEEE '01)
2000	Session Chair, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '00)
2000	Member, International Program Committee, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '00)
2000	Member, Referee Board for the Computer Vision and Image Analysis Track, Fifteenth International Conference on Pattern Recognition (ICPR ' 2000)
2000	Member, Program Committee for World Conference on the WWW and Internet, sponsored by the Association for the Advancement of Computing in Education (WebNet 2000)

1999	Session Chair (2 sessions), Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '99)
1999	Member, International Program Committee, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '99)
1998	Session Chair, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '98)
1998	Member, International Program Committee, Sixth IEEE International Conference on Fuzzy Systems (FUZZ-IEEE '98)
1997	Session Chair, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '97)
1997	Member, International Program Committee, Annual Conference of the North American Fuzzy Information Processing Society (NAFIPS '97)
1996	Member, Technical Program Committee, Fifth IEEE International Conference on Fuzzy Systems (FUZZ-IEEE '96)
2000-Present	Member of Project Kaleidoscope Faculty for the Twenty-first Century
1998-Present	Member of Consortium of Computing in Small Colleges (CCSC)
1996-Present	Member of ACM Special Interest Group on Computer Science Education (SIGCSE)
1994-Present	Member of North American Fuzzy Information Processing Society (NAFIPS)
1983-Present	Member of Institute of Electrical and Electronics Engineers (IEEE) and IEEE Computer Society (Senior Member, 2003-present)
1983-Present	Member of American Association for Artificial Intelligence (AAAI)
1982-Present	Member of Association for Computing Machinery (ACM) (Senior Member, 2006-present)

REVIEWS OF PROPOSALS, PAPERS, AND TEXTBOOKS:

Reviews of Proposals for the National Science Foundation

2006	2 panels (13 proposals, 26 proposals)
2005	1 panel (12 proposals)
2004	1 panel (12 proposals)
2001	1 panel (24 proposals)
2000	1 panel (9 proposals)
1998	1 panel (14 proposals)
1995	1 panel (36 proposals)
1993	2 panels (43 proposals, 27 proposals)
1992	1 panel (30 proposals) and 3 individual proposals
1991	3 panels (30 proposals, 11 proposals, 9 proposals)
1989	1 individual proposal

Reviews of Journal and Conference Papers

2007	ACM SIGCSE 2007 (Computer Science Education), 5 special sessions.

ACM ITISCE 2006 (Computer Science Education), 2 papers
ED-MEDIA 2007, World Conference on Educational Multimedia, Hypermedia, & Telecommunication (program committee), 7 papers

2006 *IEEE Transactions on Education,* 2 papers.
International Journal of Software Engineering and Knowledge Engineering, 1 paper
ACM SIGCSE 2006 (Computer Science Education), 3 papers
ACM ITISCE 2006 (Computer Science Education), 2 papers
ED-MEDIA 2006, World Conference on Educational Multimedia, Hypermedia, & Telecommunication (program committee), 7 papers
IEEE Conference on Fuzzy Systems (FUZZ-IEEE) (program committee), 5 papers
Consortium on Computing Science in Colleges - Midwest Region Annual Conference, 1 paper
International Conference on Distributed Multimedia Systems (DMS '06) (program committee), 3 papers

2005 *IEEE Transactions on Education*, 1 paper
ACM SIGCSE 2005 (Computer Science Education), 2 panels and 3 special sessions
Consortium on Computing Science in Colleges - Midwest Region Annual Conference, 2 papers
Consortium on Computing Science in Colleges - Northeast Region Annual Conference, 4 papers
Annual Conference on Innovation and Technology in Computer Science (ITISCE 05), 4 papers
IEEE Conference on Fuzzy Systems (FUZZ-IEEE), 4 papers
ED-MEDIA 2005, World Conference on Educational Multimedia, Hypermedia, & Telecommunication (program committee), 9 papers
E-Learn 2005, World Conference on E-Learning in Corporate, Government, Healthcare & Higher Education, 9 papers
International Conference on Distributed Multimedia Systems (DMS 2005), 3 papers

2004 IEEE Transactions on Education, 2 papers
ACM SIGCSE 2004 (Computer Science Education), 4 papers
Consortium on Computing Science in Colleges - Northeast Region Annual Conference, 3 papers
Consortium on Computing Science in Colleges - Midwest Region Annual Conference, 2 papers
ED-MEDIA 2004, World Conference on Educational Multimedia, Hypermedia, & Telecommunication (program committee), 10 papers
International Association for the Development of the Information Society e-Society 2004, 4 papers
E-Learn 2004, World Conference on E-Learning in Corporate, Government, Healthcare & Higher Education, 10 papers

2003 IEEE Transactions on Education, 3 papers
ACM SIGCSE 2003 (Computer Science Education), 3 papers
ED-MEDIA 2003, World Conference on Educational Multimedia, Hypermedia, & Telecommunication (program committee), 10 papers
International Association for the Development of the Information Society e-Society 2003, 3 papers
E-Learn 2003, World Conference on E-Learning in Corporate, Government, Healthcare & Higher Education, 10 papers
Consortium on Computing in Small Colleges - Northeast Region Annual Conference, 5 papers
Consortium on Computing in Small Colleges - East Region Annual Conference, 2 papers

2002 IEEE Transactions on Education, 2 papers
Journal of Electronic Imaging, 1 paper
ACM SIGCSE 2002 (Computer Science Education), 3 papers
Consortium on Computing in Small Colleges - Northeast Region Annual Conference, 4 papers
IEEE Conference on Fuzzy Sets and Systems (FUZZ-IEEE) (program committee), 6 papers

2001 IEEE Transactions on Education, 1 paper
ACM SIGCSE 2001 (Computer Science Education), 2 papers
IEEE Conference on Fuzzy Sets and Systems (FUZZ-IEEE) (program committee), 2 papers
World Conference on the WWW and Internet (program committee), 14 papers

2000	Knowledge and Information Systems Journal, 1 paper IEEE Transactions on Pattern Analysis and Machine Intelligence, 1 paper IEEE Transactions on Fuzzy Systems, 1 paper IEEE Transactions on Systems, Man and Cybernetics, 1 paper International Journal of Pattern Recognition and Artificial Intelligence, 2 papers World Conference on the WWW and Internet (program committee), 9 papers IEEE International Conference on Pattern Recognition (referee board), 19 papers North American Fuzzy Information Processing Conference (prog. comm.), 10 papers ACM SIGCSE 2000 (Computer Science Education), 4 papers
1999	IEEE Transactions on Fuzzy Systems, 1 paper SIAM Review, 1 paper North American Fuzzy Information Processing Conference, 5 papers ACM SIGCSE 99 (Computer Science Education), 3 papers
1997	IEEE Transactions on Systems, Man and Cybernetics, 1 paper IEEE International Conference on Fuzzy Systems (prog. comm), 4 papers North American Fuzzy Information Processing Conference (prog. comm.), 9 papers
1996	IEEE Transactions on Fuzzy Systems, 2 papers IEEE International Conference on Fuzzy Systems (prog. comm), 10 papers
1995	IEEE Transactions on Pattern Analysis and Machine Intelligence, 1 paper IEEE Transactions on Fuzzy Systems, 2 papers IEEE Potentials, 1 paper International Joint Conference on Artificial Intelligence, 1 paper
1994	IEEE Transactions on Systems, Man and Cybernetics, 1 paper American Mathematical Monthly, 1 paper International Conference on Pattern Recognition, 4 papers IEEE International Conference on Robotics and Automation, 1 paper
1993	International Journal of Computer Vision, 1 paper International Journal of Fuzzy Sets and Systems, 1 paper IEEE Transactions on Fuzzy Systems, 1 paper IEEE International Conference on Robotics and Automation, 4 papers
1992	IEEE Transactions on Systems, Man and Cybernetics, 1 paper

Reviews of Educational Program Proposals for Foundation for the Improvement of Post-Secondary Education

1997	1 panel (250 proposals)

Reviews of Textbooks and Educational Materials

2003	*Machine Vision, 3rd ed.,* Roy Davies, for Morgan Kaufmann Publishers, San Francisco, CA
2002	*User-Centered Web Site Design,* McCracken and Wolfe, for Prentice-Hall, Inc., Upper Saddle River, NJ
2001	*JAWAA* Algorithm Animation software, Computer Science Department, Duke University, Durham, NC
1997	*An Invitation to Computer Science*, Schneider and Gersting, for PWS Publishing Company, Boston, MA
1994	*An Introduction to the Analysis of Algorithms* (manuscript), Robert Sedgewick and Philippe Flajolet, for Addison Wesley Publishing Company, Reading, MA
1993	*Artificial Intelligence: Structures and Strategies for Complex Problem Solving, second edition*, George F. Luger and William F. Stubblefield, for The Benjamin Cummings Publishing Company, Inc., Redwood City, CA

1991	*Compared to What? An Introduction to the Analysis of Algorithms* (manuscript), Gregory J. E. Rawlins, for Computer Science Press, W. H. Freeman & Company, New York (with Robert Walker)
	Foundations in Computer Science (manuscript), by Alfred V. Aho and Jeffrey D. Ullman, Computer Science Press, W. H. Freeman & Company, New York (with Robert Walker)

OTHER PROFESSIONAL SERVICE:

2007	Faculty consultant (reader) for Advanced Placement Exam in Computer Science, NJ
2004-2005	Faculty consultant (reader) for Advanced Placement Exam in Computer Science, Clemson, SC
2001-2002	Faculty consultant (reader) for Advanced Placement Exam in Computer Science, Clemson, SC

HONORS AND AWARDS:

2006	Distinguished Professor, Cohort of Associate Professors Project (CAPP), Computing Research Association
2006	Elevated to Senior Member, ACM
2005	Mentor Recognition Award, University of California San Diego (nominated by Lucas Chaney)
2003	Elevated to Senior Member, IEEE
1999	Paul E. Martin Award, Hiram College
1981–Present	Sigma Xi, The Scientific Research Society
September 1981 – August 1989	AT&T Bell Laboratories Graduate Program for Women Fellowship