

Curriculum Vitae
Jerry B. Weinberg, Ph.D.
Southern Illinois University at Edwardsville
School of Engineering
Department of Computer Science
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Education:

Ph. D. in Computer Science, December 1996

Vanderbilt University, Nashville, TN

Master of Science in Computer Science, December 1990

Vanderbilt University, Nashville, TN

Bachelor of Science in Computer Science, May 1988

University of South Carolina, Columbia, SC

Bachelor of Science in Nursing, May 1984

Indiana State University, Terre Haute, IN

Associate of Science in Nursing, May 1982

Indiana State University, Terre Haute, IN

Employment:

Southern Illinois University at Edwardsville

Acting Associate Provost for Research & Dean of the Graduate School, 7/10 to present

Department Chair, 8/05 to 6/10

Professor, Department of Computer Science, 7/06 to present

Associate Professor, Department of Computer Science, 7/02 – 7/07

Assistant Professor, Department of Computer Science, 8/96 – 7/02

Vanderbilt University, Nashville, TN

Instructor, Teaching Assistant, Web Site Developer, Research Assistant, 1990 - 1996

NCR and Allied Chemical Co., Columbia, SC

Programming Consultant. 1987 - 1988

University of South Carolina, Columbia, SC

Computer Support, 1987 - 1988

Lexington County Hospital, Columbia, SC

Registered Nurse, Emergency Department, 1986 - 1987

St. Vincent's Hospital, Indianapolis, IN

Registered Nurse, Emergency Department, 1984 - 1986

Union Hospital, Terre Haute, IN

Registered Nurse, 1981 - 1984

Publications:

Articles

Weinberg, J.B., S.L. Thomas, J.C. Pettibone, M.L. Stephen, "Can Robotics Keep Girls in Science?", in *New Formulas for America's Workforce 2: Girls in Science and Engineering*, National Science Foundation, MSF 06-60, 2007, pp. 12 – 13. (Invited)

Zachary Dodds, Lloyd Greenwald, Ayanna Howard, Sheila Tejada, and Jerry Weinberg, "Components, Curriculum, and Community: Robots and Robotics in Undergraduate AI Education", *AI Magazine*, Spring 2006, Vol. 27, No. 1, pp. 11 - 22.

Abrahamian, E., J. Weinberg, M. Grady, & C.M. Stanton, "The Effect of Personality-Aware Computer Human Interfaces on Learning", *Journal of Universal Computer Science*, Vol. 10(1) 2004, pp 27-37.

Weinberg, J.B. and X. Yu., "Robotics in Education: Low cost platforms for teaching integrated systems", *IEEE Robotics & Automation Magazine*, June 2003, Vol. 10, No 2, pp 4-6

Yu, X. and J.B. Weinberg, "Robotics in Education: New platforms and environments", *IEEE Robotics & Automation Magazine*, September 2003, Vol. 10, No 3, pp 3-4.

Yu, X, G. Biswas, J.B. Weinberg, "Multilevel Diagnosis System: A hybrid architecture for combining associational and model based diagnosis", *Journal of Applied Intelligence*, Vol 14; 2001; pp. 179-195.

Biswas, G., J.B. Weinberg, D. Fisher. "ITERATE: A Conceptual Clustering Algorithm for Data Mining." *IEEE Transaction on System, Man, & Cybernetics*, 1998. Vol. 28, No. 2: 219-230.

Fisher, D., L. Xu, R.J. Carnes, et al. "Applying AI Clustering to Engineering Tasks." *IEEE Expert*, 1993, Vol. 8, No. 6: 51-60.

Book Chapters

Mead, R, Thomas, S.L., Weinberg J.B., "From Grade School to Grad School: An Integrated STEM Pipeline Model Through Robotics." *Robots in K-12 Education: A New Technology for Learning*. B.S. Barker, G. Nugent, N. Grandgenett, and v. Adamchuk, Editors, IGI Global Publishing, February 2012, to appear.

Weinberg J.B., Klein S. P., Anderson D. K., et al., "Patient-Doctor Interconnectivity: Improving Health Care Management and Patient Compliance with Web Technology." *Managing Healthcare Information Systems with Web-Enabled Technologies*. L. Eder, Editor, Idea Group Publishing, February 2000, pp. 188-204.

Biswas, G., J.B. Weinberg, and G. Koller. "Data Exploration in Non Numeric Databases." *Advances in Geophysical Processing: Advances in database and AI*. F. Petry and L. Delcambre, Editor. Jai Press: CT, 1995. 145-165.

Biswas, G., J.B. Weinberg, and C. Li. "ITERATE: A Conceptual Clustering Method for Knowledge Discovery in Databases." *Innovative Applications of Artificial Intelligence in the Oil and Gas Industry*, B. Braunschweig and R. Day, Editor. Editions Technip, 1994.

J.B. Weinberg, S. Uckun, G. Biswas, et al., "Qualitative Vector Algebra." *Recent Advances in Qualitative Physics*. B. Faltings and P. Struss, Editor. The MIT Press: Cambridge, MA., 1992, pp. 193-208.

Proceedings

Beer, B., Mead, R., & Weinberg, J.B. (2011) "A Distributed Spanning Tree Method for Extracting System Environmental Information from a Network of Mobile Robots", in the Technical Report of *The 2011 American Association of Artificial Intelligence Spring Symposia (SS-11-07)*, Stanford, CA, March 2011, pp. 2-3.

Long, R., Mead, R. and J.B. Weinberg, "Distributed Auction-Based Initialization of Mobile Robot Formations", in the Proceedings of *The 24th National Conference on Artificial Intelligence (AAAI-10)*, Atlanta, GA, July 2010, pp. 1949-1950.

Brent, B., Mead, R. and J.B. Weinberg, "Distributed Method for Evaluating Properties of a Robot Formation", in the Proceedings of *The 24th National Conference on Artificial Intelligence (AAAI-10)*, Atlanta, GA, July 2010, pp. 1923-1924.

Mead, R., J.B. Weinberg, and M. J. Mataric, "An Ontology-based Multimodal Communication System for Human-Robot Interaction in Socially Assistive Domains", in the *Proceedings of The ICRA 2010 Workshop on Multimodal Human-Robot Interface (ICRA-10)*, Anchorage, AK, May 2010, pp. 35-36.

Mead, R., R. Long, and J.B. Weinberg (2009) "Fault-Tolerant Formations of Mobile Robots", in the Proceeding of *The 2009 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, St. Louis, MO, October 2009, pp. 4805 - 4810.

Croxell, J.R., R.W. Krauss, J.B. Weinberg, and S.R. Smith (2009) "Accelerometer Based Self-Discovery of Multiple Link Kinematics", in the Technical Report (WS-09-02) of *The Association for the Advancement of Artificial Intelligence (AAAI) / International Joint Conference on Artificial Intelligence (IJCAI-09) Workshop on Robotics: Manipulation, Learning, Teaming, and Education*, Pasadena, CA, July 2009, pp. 6-10.

Nyambweke, A. and Weinberg, J.B. (2009) "TUIBot: A Tangible Interface to Improve Situation Awareness" in the Technical Report (WS-09-02) of *The Association for the Advancement of Artificial Intelligence (AAAI) / International Joint Conference on Artificial Intelligence (IJCAI-09) Workshop on Robotics: Manipulation, Learning, Teaming, and Education*, Pasadena, CA, July 2009, pp 39-42.

White, W.W. and J.B. Weinberg (2009) "Breadth-Last Technical Electives: Integrating the CS Core via Computer Games and Mobile Robotics", in the Proceedings of *The 40th ACM Technical Symposium on Computer Science Education (SIGCSE '09)*, Chattanooga, TN, March 2009, pp. 54-58.

Croxell, J.R., R.W. Krauss, S.R. Smith, and J.B. Weinberg (2008) "Robotic Limb Calibration: Accelerometer Based Discovery of Kinematic Constants", in the Technical Report (WS-08-08) of *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Workshop on Mobile Robotics: Mobility and Manipulation*, Chicago, IL, July 2008, pp. 1-4.

Mead, R., J.B. Weinberg, J. Toennies, J.R. Croxell, B. Adams, G. Engel, J. Hiatt, N. Italiano, R. Krauss, A. Backs, and M. Gorlewicz (2008) "Road Runner: An Autonomous Vehicle for HRI Research", in the Technical Report (WS-08-08) of *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Workshop on Mobile Robotics: Mobility and Manipulation*, Chicago, IL, July 2008, pp. 23-28.

Mead, R. and J.B. Weinberg (2008) "A Distributed Control Algorithm for Robots in Grid Formations", in the Technical Report (WS-08-08) of *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Workshop on Mobile Robotics: Mobility and Manipulation*, Chicago, IL, July 2008, pp. 18-22.

Weinberg, J.B., W. Yu, K. Wheeler-Smith, R. Knight, R. Mead, I. Bernstein, J. Croxell, & D. Webster (2008) "Making Intelligent Walking Robots Accessible to Educators: A Brain and Sensor Pack for Legged Mobile Robots", in the Technical Report (WS-08-08) of *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Workshop on AI Education*, Chicago, IL, July 2008, pp. 84-89 .

Mead, R. and J.B. Weinberg (2008) "2-Dimensional Cellular Automata Approach to Robot Grid Formations", in the *Proceedings of The 23rd National Conference on Artificial Intelligence Robot Workshop (AAAI-08)*, Chicago, IL, July 2008, 1989-1990.

Mead, R. and J.B. Weinberg, "Impromptu Teams of Heterogeneous Mobile Robots", in the *Proceedings of The 2nd National Conference on Artificial Intelligence (AAAI-07)*, Vancouver, BC, July 2007, pp. 1890-1891.

Mead, R., J.B. Weinberg, and J. Croxell (2007) "A Demonstration of a Robot Formation Control Algorithm and Platform", in the *Proceedings of The 22nd National Conference on Artificial Intelligence Robot Workshop (AAAI-07)*, Vancouver, BC, July 2007, pp. 23-27.

Weinberg, J.B., J.C. Pettibone, S.L. Thomas, M.L. Stephen, and C. Stein, "The Impact of Robot Projects on Girls' Attitudes Toward Science and Engineering", *Robotics Science and Systems (RSS) Workshop on Research in Robots for Education*, Georgia Institute of Technology, Atlanta, GA, June 30th, 2007, published on the web (<http://www.roboteducation.org/rss-2007/>).

Croxell, J. R., Mead, R., & Weinberg, J.B. (2007) "Designing Robot Competitions that Promote AI Solutions: Lessons Learned Competing and Designing", in the Technical Report of *The 2007 American Association of Artificial Intelligence Spring Symposia (SS-07-09)*, Stanford, CA, March 2007, pp. 29-34.

Miller, D.P., Winton, C., & Weinberg, J.B. (2007) "Beyond Botball: A Software Oriented Challenge for Undergraduate Education", in the Technical Report of *The 2007 American*

Association of Artificial Intelligence Spring Symposia (SS-07-09), Stanford, CA, March 2007, pp. 107-111

Mead, R. and J.B. Weinberg, "Algorithms for Control and Interaction of Large Formations of Robots", in the Proceedings of *The 21st National Conference on Artificial Intelligence (AAAI-06)*, Boston, MA, July 2006, pp. 1891-1892.

Weinberg, J.B., S. Thomas, J. Pettibone, and M. Stephen, "Robotics Projects and Girls' Self-Perception of Achievement in Science, Technology, Engineering, and Mathematics", in the Proceedings of *The 5th Annual National Conference on Educational Robotics* (NCER-06), Norman, Oklahoma, July 2006, pp. 245 – 252. (Invited paper).

Grubaugh, B., S. Thomas, and J.B. Weinberg, "The Effects of the Testing Environment on User Performance in Software Usability Testing", in the Proceedings of *The 2005 IASTED International Conference on Human-Computer Interaction*, Phoenix, AZ, November 2005, pp 39-43.

Harris, E., J. Weinberg, S. Thomas, and D. Geaslin, "Effects of Social Facilitation & Electronic Monitoring on Usability Testing" in the Proceedings of *The 2005 Usability Professionals' Association (UPA 2005)*, Montreal, Canada, June 2005, published on CD.

William W. White, Jerry B. Weinberg, George L. Engel, S. Cem Karacal, and Ai- Ping Hu; "Assessing an Interdisciplinary Robotics Course;" *2005 ASEE Annual Conference*; Portland, OR, June 2005, published on CD.

Weinberg, J.B., W. White, C. Karacal, G. Engel, & A. Hu, "Multidisciplinary Teamwork in a Robotics Course", *The 36rd ACM Technical Symposium on Computer Science Education*, February 2005, pp. 446-450.

Harris, E., Lamonica, A., and Weinberg, J.B., "Interfacing the Public and Technology: A Web Controlled Mobile Robot", *Accessible Hands on Artificial Intelligence and Robotics Education: Working Papers of the 2004 AAAI Spring Symposium Series*, March 2004.

Mayer, G., Weinberg, J.B., and Yu, X., "Teaching Deliberative Navigation Using the LEGO RCX and Standard LEGO Components", *Accessible Hands on Artificial Intelligence and Robotics Education: Working Papers of the 2004 AAAI Spring Symposium Series*, March 2004.

Lamonica, A., Yu. X., and Weinberg, J.B., "Keeping the Focus on Heuristics: Network Game Agent for Teaching AI", *Accessible Hands on Artificial Intelligence and Robotics Education: Working Papers of the 2004 AAAI Spring Symposium Series*, March 2004.

Jerry Weinberg, Cem Karacal, George Engel, Ai-Ping Hu, and William White; "An Interdisciplinary Robotics Course Using the Handy Board;" Proceedings of *The 5th International Conference on Information Technology Based Higher Education and Training: ITHET '04*; Istanbul, Turkey; June 2004.

Abrahamian, E., J. Weinberg, M. Grady, & C.M. Stanton, "Is Learning Enhanced by Personality-Aware Computer-Human Interfaces?"; *3rd International Conference on*

Knowledge Management Workshop on eLearning – Human Issues and Personalization, June 2003.

Dharna, N., S. Thomas, and J. Weinberg, "The Effects of Animated Characters with Human-Traits on Interface Usability and User's Perception of Social Interactions", *Computer-Supported Social Interaction*, Miami University, Oxford OH, April 2003, published on CD and online (<http://www.users.muohio.edu/birchmzp/csi/dharna.pdf>)

Weinberg, J. B. & M. Stephen, "A Laboratory Experience for Teaching Participatory Design in a Human-Computer Interaction Course", *2002 American Society for Engineering Education*, June 2002.

Weinberg, J.B. & M. Stephen, "Participatory Design in a Human-Computer Interaction Course: Teaching Ethnography Methods to Computer Scientists", *The 33rd ACM Technical Symposium on Computer Science Education*, February 2002, 237-241.

Weinberg, J.B. & G. Mayer, "A Robotics Multidisciplinary Project Action Group", *Robotics and Education: Working Papers of the 2001 AAAI Spring Symposium Series*, March 2001

Weinberg, J. B., G. Engel, G. Keqin, C. Karacal, C., S. Smith, W. White, and X. Yu, "A Multidisciplinary Model for Using Robotics in Engineering Education", *American Society for Engineering Education 2001 Annual Conference*, June 2001; published on CD.

Yu, X., J.B. Weinbrg, M. Huang, and D. Anderson, "HDA – An Internet-Enabled System for Healthcare Management", *Proceedings of the IEEE Conference on System, Man, and Cybernetics*, October 2000, pp. 1836-1841.

Weinberg, J.B. and G. Biswas. "Functional Modularity of Diagnosis Domain Structure." *Dx '95: Workshop on Principles of Diagnosis*. 1995. Goslar, Germany: p. 123 - 130.

Biswas, G., G. Lee, and J.B. Weinberg. "Concept Formation Using ITERATE: Building Rule Models for Efficient Reasoning." *Application of Artificial Intelligence XI*. 1993. Orlando, FL: p. 2-13.

Weinberg, J.B., G. Biswas, and G.R. Koller. "Conceptual Clustering with Systematic Missing Values." *Proceeding of the Ninth International Workshop on Machine Learning*. 1992. Aberdeen, Scotland: p. 464-469.

Biswas, G., J.B. Weinberg, Q. Yang, et al. "Conceptual Clustering and Exploratory Data Analysis." *Proceedings of the Eighth International Workshop on Machine Learning*. 1991. Evanston, IL: p. 591-595.

Carlson, B.M., J.B. Weinberg, and D.H. Fisher. "Search Control, Utility, and Concept Induction." *Proceedings of the Seventh International Conference on Machine Learning*. 1990. Austin, TX: p. 85-92.

Weinberg, J.B., G. Biswas, and S. Uckun. "Continuing Adventures in Qualitative Modeling: A qualitative heart model." *Proceedings of the Third International Conference on Industrial and Engineering Applications of AI and Expert Systems*. 1990. Charleston, SC: p. 416-425.

Uckun, S., J.B. Weinberg, S. Manganaris, et al. "Towards the Development of a Qualitative Problem Solver in Mechanics." *Working Papers of the Second AAI Workshop on Model Based Reasoning*. 1990. Boston, MA: p. 149-156.

Weinberg, J.B., S. Uckun, and G. Biswas. "Qualitative Vector Algebra." *Fourth International Workshop on Qualitative Physics*. 1990. Lugano, Switzerland: p. 82-96.

Weinberg, J.B., G. Biswas, and L. Weinberg. "Adventures in Qualitative Modeling: A qualitative heart model." *Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics*. 1989. Cambridge, MA: p. 1003-1008.

Weinberg, J.B., W. Hagins, and G. Biswas. "Extending Temporal Reasoning in Process-Oriented Qualitative Reasoning." *Proceedings of the First AAI Workshop on Model Based Reasoning*. 1989. Detroit, MI: p. 198-201.

Dissertation

Weinberg, J.B. "Syndromic Abstraction: A Method of Exploiting Domain Structure To Focus Abductive Reasoning In Association Based Representations." Dissertation, 1996, Vanderbilt University.

Technical Reports

Biswas, G., J.B. Weinberg, G.R. Koller, et al. "ITERATE: Preliminary Results." 1993. Tech. Report CS-93-12, Vanderbilt University.

Weinberg, J.B., G. Biswas, and G. Koller. "An Analysis of the Inductive Bias of Concept Formation Using the Category Utility as a Criterion Function." 1993. Tech. Report CS-93-01, Vanderbilt University.

Uckun, S., G. Biswas, and J.B. Weinberg. "Qualitative Vector Algebra: An application to cardiac vector analysis." 1990. Tech. Report CS-90-01, Vanderbilt University.

Thesis

Weinberg, J.B. "A Qualitative Model of Electrocardiac Physiology." Master's Thesis, 1990, Vanderbilt University.

Presentations:

Weinberg, J.B. and D. MacCartney, "Ethical Dilemmas of Research Administration", presented at *The 53rd Annual Meeting of the National Council of Research Administrators*, Washington D.C., November 2011.

Weinberg, J.B. and R. Andersen, "Dealing with Ethical Dilemmas in an Era of Value Pluralism", presented at *The 53rd Annual Meeting of the National Council of Research Administrators*, Washington D.C., November 2011.

Weinberg, J.B., R. DasGupta, & R. Tait, “Moving from Discovery to Innovation: Supporting and Managing Translational Research” presented at *The 53rd Annual Meeting of the National Council of Research Administrators*, Washington D.C., November 2011.

Johnson, C., J.B. Weinberg, & Kiel, C., “Building a Solid IP and Tech Transfer Foundations at PUI’s”, presented at *The 5th Annual Pre-Award Research Conference (NCURA-PRA)*, Chicago, July 2011.

Weinberg, J.B., “An Inside Look at the NSF Review Process”, presented at the *2011 Leadership in Interdisciplinarity, Networking and Collaboration Conference (LINC)*, St. Louis, April 2011.

Mead R. & J.B. Weinberg, “An Ontology-based Multimodal Communication System for Human-Robot Interaction in Socially Assistive Domains”, presented at *The ICRA 2010 Workshop on Multimodal Human-Robot Interface (ICRA-10)*, Anchorage, AK, May 2010.

Weinberg, J.B., “Academic, Outreach, and Scholarship: Robots Pull it All Together”, presented at the *Southern Illinois University Board of Trustees Meeting*, Edwardsville, April 2010.

Weinberg, J. (2009) "Search & Rescue: Robots seek out the next generation of engineers and computer scientists", *Future of Robots in Education Symposium*, Chattanooga, TN, March 2009.

Croxell, J.R., R.W. Krauss, S.R. Smith, and J.B. Weinberg (2008) “Robotic Limb Calibration: Accelerometer Based Discovery of Kinematic Constants”, *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Robotics Workshop and Exhibition: Mobility and Manipulation*, Chicago, IL, July 2008.

Mead, R., J.B. Weinberg, J. Toennies, J.R. Croxell, B. Adams, G. Engel, J. Hiatt, N. Italiano, R. Krauss, A. Backs, and M. Gorlewicz (2008) “Road Runner: An Autonomous Vehicle for HRI Research”, *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Robotics Workshop and Exhibition: Mobility and Manipulation*, Chicago, IL, July 2008.

Mead, R. and J.B. Weinberg (2008) “A Distributed Control Algorithm for Robots in Grid Formations”, in the Technical Report (WS-08-02) of *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Workshop on Mobile Robotics: Mobility and Manipulation*, Chicago, IL, July 2008.

Weinberg, J.B., W. Yu, K. Wheeler-Smith, R. Knight, R. Mead, I. Bernstein, J. Croxell, & D. Webster (2008) “Making Intelligent Walking Robots Accessible to Educators: A Brain and Sensor Pack for Legged Mobile Robots”, *The 2008 Association for the Advancement of Artificial Intelligence (AAAI-08) Robotics Workshop and Exhibition: Mobility and Manipulation*, Chicago, IL, July 2008.

Ross Mead, Jerry B. Weinberg, & Jeff Croxell, “An Implementation of Robot Formations using Local Interactions”, *Robot Competition and Exhibition of the 22nd National Conference on Artificial Intelligence (AAAI-07)*, Vancouver, BC, July 2007.

Jerry B. Weinberg, Monica LaPoint, & Susan Thomas, "Impacting Expectations of Success: Gender, Culture, Learning Style", *Robotics Education Symposium*, Washington D.C., May 5th, 2006.

Jerry B. Weinberg, panelist, "World Usability Day: Professional – Student Panel", *GatewayCHI*, Nov. 3rd, 2005

Jerry B. Weinberg, "Autonomous Intelligent Mobile Robotics", Fontbonne University, Sept. 2005.

Jerry B. Weinberg, C. Schwendemann, Richard Hall, & Carol Righi, "Bridging the Gap Between Academia and Practice", *St. Louis User Experience 2005* .

Jerry B. Weinberg, C. Schwendeman, J. Haschart, and M. Stephen , "Incorporating User-Centered Design Methods in a Human-Computer Interaction Course", *SIGCSE 2005 Technical Symposium on Computer Science Education*..

Jerry B. Weinberg, C. Schwendemann, Richard Hall, & Carol Righi, "Bridging the Gap Between Academia and Practice", *Usability Professionals' Association 2005 Conference (UPA 2005)*.

Weinberg, J.B., M.L. Stephen, and Caufield, K.J., "Teaching Human-Computer Interaction Using Participatory Design Methods", *GatewayCHI: St. Louis Chapter of the Special Interest Group on Computer-Human Interaction*, April 2001.

Weinberg, J.B. and L. Snell, "A Software Program for Teaching Concrete Acceptance", *Spring 2001 American Concrete Institute Convention*, Session: Constructibility in the Classroom, March 2001.

Weinberg, J.B. and Stephen, M.L., "Human-Computer Interaction Software Design Curriculum Using Participatory Design Methods", *The 32nd ACM Technical Symposium on Computer Science Education*, February 2001.

Weinberg, J. B. and X. Yu, "Robotics in Education: An Integrated Systems Approach to Teaching", *IEEE System, Man, and Cybernetics 2000 Conference*, Special Session, Organizer and Chair, October 2000.

Weinberg, J.B., SIUE Graduate School Annual Spring Symposium, "Multidisciplinary Research", panel member, March 2000.

Weinberg, J.B. and S. Klein, "Using the Web to Improve Health Management", *SIUE Soup & Substance*, October 1999.

Weinberg, J.B. "Introduction To Computer Programming and Computer Science." *Engineering and Science Pre-College Program and Midwest Engineering and Science Academy*. Edwardsville, IL. 1997, 1998, 1999, 2000.

Weinberg, J.B. "Syndromic Abstraction: A method of exploiting domain structure to focus abductive reasoning in association based representations." *Vanderbilt Biomedical Seminar*. 1995.

Weinberg, J.B. "Focusing Computer Diagnosis by Determining the Syndromic Context." *Vanderbilt Graduate Research Day*. 1995.

Weinberg, J.B. and D. Voss. "WWW/FTP Server Development at Vanderbilt." *Computer Science Seminar*. 1995

Weinberg, J.B. "CS Jeopardy." *Vanderbilt Computer Science Seminar*. 1993 &1994.

Weinberg, J.B. "Conceptual Clustering and Exploratory Data Analysis." *Machine Learning Workshop*, Evanston, IL. 1991.

Reviewer/Referee:

International Journal of Social Robotics, 2011

ACM Transactions on Computing Education, 2009.

Twelfth FIRA RoboWorld Congress, 2009.

Qatar National Research Fund, National Priorities Research Program (coordinated by RAND Corporation), 2007.

International Conference on Research in Engineering Education (ICREE), 2007.

Promotion & Tenure External Reviewer, Harvey Mudd College, 2004.

Journal of Educational Resources in Computing (JERIC), 2004.

World Multi-Conference on Systemics, Cybernetics and Informatics, 2004.

Knowledge and Information Systems Journal, 2003.

Morgan Kaufmann Publishers, proposal reviewer, 2003.

The Eighteenth International Joint Conference on Artificial Intelligence (IJCAI-03)

National Science Foundation, Division of Undergraduate Education, 2000, 2001, 2002, 2004 (Panel Chair), & 2007.

IEEE System, Man, and Cybernetics Conference, 2000, 2001, 2002.

Journal of Machine Learning

Journal of Artificial Intelligence, special issue on applications of machine learning.

Applied Intelligence: The International Journal of Artificial Intelligence, Neural Networks, and Complex Problem-Solving Technologies.

International Conference of Industrial and Engineering Applications of Artificial Intelligence and Expert Systems.

The International Society for Optical Engineering Conference on Applications of Artificial Intelligence.

Journal of Artificial Intelligence in Medicine.

Courses Taught:

- CS 111 Applied Computer Concepts
- CS 150/CS 402 Introduction To Computing
- CS 320 Systems Design
- CS 321 Human-Computer Interaction
- CS 438 Artificial Intelligence
- CS 425 Software Project Development
- CS 499 Senior Project
- CS 495 Undergraduate Research Academy
- CS 490/CIS 588 Topics In Computer Science: Machine Learning
- CS 490 Topics in Computer Science: Computer Game Programming
- CS 490 Topics in Computer Science: Intelligent Mobile Robotics
- CS 490 Topics in Computer Science: Mobile Robotics: Integrated System Design
- CSE 550a Mobile Robotics at Washington University St. Louis, Fall 2010

Grants:

- “STTR Phase IIb Supplement: General Robot Controller for Legged Mobile Robots with Integrated Open Source Software”, National Science Foundation, Co-Principal Investigator, 2011, **Funded, \$86,133**
- “NRI-Small: Intelligent Control of Re-Configurable Flexible Robots”, National Science Foundation, Co-Principal Investigator, 2011, **In Review, \$237,069**
- “Collaborative Research: Maximizing Mentor Effectiveness in Increase Student Interest and Success in STEM: An Empirical Approach Employing Robotics Competitions”, National Science Foundation, Co-Principal Investigator, 2011, **Funded, \$515,289**
- “Completion and Attrition Rates in STEM Master’s Programs”, Council on Graduate Schools, Principal Investigator, 2011, **Funded, \$30,000**
- Research Experiences for Undergraduates (REU) Supplement to STTR Phase II: General Robot Controller for Legged Mobile Robots with Integrated Open Source Software, National Science Foundation, Co-Principal Investigator, 2010, **Funded, \$6,400.**
- Research Experiences for Undergraduates (REU) Supplement to STTR Phase II: General Robot Controller for Legged Mobile Robots with Integrated Open Source Software, National Science Foundation, Co-Principal Investigator, 2009, **Funded, \$6,400.**
- “STTR Phase II: General Robot Controller for Legged Mobile Robots with Integrated Open Source Software”, National Science Foundation, Co-Principal Investigator, 2009, **Funded, \$500,000**
- “Creating Educational Opportunities through Partnerships” National Science Foundation, Co-Principal Investigator, 2008, **Funded, \$600,000.**
- “STTR Phase I: General Robot Controller for Legged Mobile Robots with Integrated Open Source Software”, National Science Foundation, Co-Principal Investigator, 2007, **Funded, \$150,000**
- Illinois State State Matching Grant 2007, **Funded, \$10,000**

- Illinois State Matching Grant 2006, **Funded, \$22,000**
- “The Effects of Robotics Team Projects on Girls’ Attitudes Toward Science, Technology, Engineering, and Mathematics”, with J Pettibone, C. Stein, S. Thomas, and M. Stephen, National Science Foundation, Principal Investigator, 2005, **Funded, \$352,586**.
- “The Development of Multidisciplinary Teamwork Assessment Techniques”, Excellence in Undergraduate Education, with W. White, 2005, **Funded, \$3,000**.
- “Algorithms for Control and Interaction of Large Formations of Robots” Summer Research Fellowship, Principle Investigator, 2004, **Funded, \$6,000**.
- “An Undergraduate Robotics Course Emphasizing Integrated System Design and Multidisciplinary Team Work”, with S. Karacal, G. Engel, W. White, and A. Hu, National Science Foundation, Principal Investigator, 2002, **Funded, \$84,000**.
- “Recruitment of Computer Science Graduates”, with G. Stephen, Excellence in Graduate Education, SIUE Graduate School, 2001, **Funded, \$ 3,000**
- State of Illinois Matching Grant Program, **Funded, \$10,000**
- “Wireless Platforms for Home Market Robotics Research”, Research Equipment/Tools Competition, SIUE Graduate School, **Funded, \$5,625**
- "Human-Computer Interaction Software Design Curriculum Using Participatory Design Methods", National Science Foundation, Division of Undergraduate Education Grant, Principle Investigator, 2000, **Funded, \$100,114**
- “A Hybrid Deliberative/Reactive Robot Control System for Inexpensive Robot Platforms”, Summer Research Fellowship, Principle Investigator, 2000, **Funded, \$6,000**
- “Robotics Multidisciplinary Project Action Group”, School of Graduate Studies and Research, Group Founder and Fiscal Officer, 1999, **Funded, \$5,000**
- “Web-Based System for the Treatment of Hypertension”, SIUE School of Graduate Studies and Research ICR Funds for Research Equipment, Principle Investigator, 1998, **Funded, \$4,600**
- “A Hypertext Linking Agent”, Regional Center for Distance Learning and Multimedia Development Mini-Grant, Principle Investigator, 1997, **Funded \$1,000**
- “Applying Abductive Specialization of Computer-Assisted Medical Diagnosis”, Summer Research Fellowship, Principle Investigator, 1997, **Funded, \$6,000**

Masters and Undergraduate Research Projects Directed:

- Scott Miller, “Coordination of Impromptu Heterogeneous Robot Teams”, Masters Thesis, Completed 2011.
- Robert Long, “Distributed Auction-Based Initialization of Mobile Robot Formations”, Masters Thesis, **Funded \$800**, Completed 2010
- Andrew Nyambweke, “A Tangible Interface to Improve Situation Awareness in Human-Robot Interaction”, Masters Thesis, Completed 2010.
- Brent Beer, “Human-Robot Interaction Large Formations of Robots”, Undergraduate Research and Creative Activities Award, **Funded \$800**, Completed 2010.

- Ross A. Mead, “Cellular Automata for Control of Robots in Large Formations”, Masters Thesis, Completed 2008.
- Erin J. Harris, “User's Personality Type and the Design of Computer Interfaces”, Masters Thesis, **Funded \$500**, Completed 2007.
- Ross Mead, “Impromptu Teams of Heterogeneous Mobile Robots”, Undergraduate Research Academy Award, **Funded \$800**, Completed 2007.
- Ross Mead, “Algorithms for Control and Interaction of Large Formations of Robots”, Undergraduate Research Academy Award, **Funded \$800**, Completed 2006.
- Bryan Grubaugh, “The Effects of the Testing Environment on User Performance in Software Usability Testing”, Undergraduate Research Academy Award, **Funded \$800**, Completed 2005.
- SaiKumar Annadatha, “Development of Crossword Puzzle Game for Pocket PC Implementing Across Lite Puzzle Format for Commercial Deployment”, Masters Project, Completed 2005.
- Ermei Yao, “Gene Cluster Identification and Analysis”, Masters Project, Completed 2004.
- Gary Mayer, “Implementation of a Hybrid Robot Control Architecture on an Inexpensive Robot Platform”, Masters Thesis, **Funded \$600**, Completed 2004.
- Nisha Dharna, “The Social and Psychological Effects of Animated Characters on Computer Users”, Undergraduate Research Academy Award, **Funded \$800**, Completed 2003.
- Erin Ecker, “Effects of Social Facilitation & Electronic Monitoring on Usability Testing”, Undergraduate Research Academy Award, **Funded \$800**, Completed 2002.
- Zhong Lan Yang, “Interactive Web Application for Human-Computer Interaction Curriculum”, Masters Project, Completed 2002.
- Micheal Bennet, “The Hyperlink Agent Project”, Masters Project, Completed 2000.
- Kristin Caufield, “Web Site Design using Participatory Design Methods”, Masters Project, Completed 1999.
- Laurie Corwin, “A Knowledge Discover System Framework”, Masters Project, Completed 1999.
- Micheal Pananopolous, “Implementation of the Iterate Clustering Scheme Using Object Oriented Techniques”, Masters Project, Completed 1999.
- Steve Klein, “Hypertension Decision Aide: An Intelligent Web-Based System for the Treatment of Hypertension Patients”, Masters Project, Completed 1998.

Honors & Awards:

- Technical Award for System Integration, *Robot Competition and Exhibition of the 23rd National Conference on Artificial Intelligence (AAAI-07)*, Chicago, IL, USA, July 2008
- Technical Innovation Award for Multi-Robot Coordination, *Robot Competition and Exhibition of the 22nd National Conference on Artificial Intelligence (AAAI-07)*, Vancouver, BC, July 2007
- International Beyond Botball Robotics Competition, 1st Place, Honolulu, HI, 2007.
- International Beyond Botball Robotics Competition, 2nd Place, Norman, OK, 2006.
- Phi Kappa Phi Honor Society, 2002
- SIUE Teaching Recognition Award, 2001
- SIUE School of Engineering Merit Award, 1998, 1999. & 2000.
- Who's Who in Engineering and Science, 1995.
- Golden Key National Honor Society, 1988.
- Pi Mu Epsilon, National Mathematics Honors Fraternity, 1988.
- Outstanding Young Men of America, 1985.
- Certificate of Achievement in Community Health, Indiana State University, 1984.
- The Frances Orgain Memorial Award for Achievement in Humanistic Nursing, Indiana State University, 1984.

Organizations and Professional Activities:

- Organizer, Global Conference on Educational Robotics and International Botball Tournament, 2010.
- Organizer, Greater St. Louis Botball Robotics Tournament, KISS Institute for Practical Robotics, 2007, 2008, 2009, 2010, 2011.
- Co-organizer, AAAI 2007 Spring Symposium, "Artificial Intelligence Education With Low-Cost Robot Platforms"
- Board member, SIUE Chapter of Phi Kappa Phi, 2006 – 2009.
- Symposium Faculty, 2006 Robotics Education Symposium: "Strengthening STEM Education Through the Use of Standards-Based Assessments for Robotics Competitions", Technology Student Association (TSA) & The National Science Foundation, Washington D.C., 2006, (www.tsarobotics.org).
- Guest Co-Editor, Special Edition of AI Magazine "Low-cost Robotics in AI Education", 2006.

- Co-organizer, AAAI 2004 Spring Symposium, “Artificial Intelligence Education With Low-Cost Robot Platforms”
- GatewayCHI, St. Louis Chapter of ACM Special Interest Group on Computer-Human Interaction; **Treasurer 2001-2002, Vice President 2002-2003, President 2003-2004.**
- Guest Co-Editor, Special Edition of IEEE Robotics and Automation “Robotics and Education”, 2003.
- Co-Developer of WYSE Academic Challenge Test in Computer Science, 2001.
- Council on Graduate Schools
- National Council of Research Administrators
- Association for Computing Machinery
- ACM Special Interest Group on Computer-Human Interaction
- ACM Special Interest Group on Artificial Intelligence
- ACM Special Interest Group on Computer Science Education
- Association for the Advancement of Artificial Intelligence
- IEEE Computer Society

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