

Elizabeth Sklar, Ph.D.

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EDUCATION

Brandeis University, Ph.D., May 2000, Computer Science.

Brandeis University, M.A., May 1997, Computer Science.

Barnard College, Columbia University, B.A., May 1985, Computer Science / English.

EXPERIENCE

Brooklyn College, City University of New York, Department of Computer and Information Science,
Brooklyn, NY, Assistant Professor (tenure track), July 2005 – present.

Columbia University, Computer Science Department
New York, NY. Assistant Professor (non-tenure track), July 2001 – July 2005.

Boston College, Computer Science Department
Chestnut Hill, MA. Visiting Assistant Professor, September 2000 – July 2001.

Brandeis University, Department of Computer Science
Waltham, MA. Visiting Research Associate, April 2000 – September 2001.

University of Melbourne, Department of Computer Science and Software Engineering
Victoria, Australia. Visiting Researcher, June 2000 – September 2000.
Working on robotic soccer simulator, geared towards introducing children to connectionist theories.

Monash University, Department of Computer Science and Software Engineering
Victoria, Australia. Sessional Lecturer, June 2000 – September 2000.

Brandeis University, Department of Computer Science
Waltham, MA. Doctoral Student, September 1995 – May 2000.
Dissertation title: *CEL: A Framework for Enabling an Internet Learning Community.*

MIT / Lincoln Laboratory
Lexington MA. Assistant Staff, June 1985 – August 1987, May 1991 – July 1997.
Led effort to port real-time software system to UNIX. Led effort to build and document software library, information system and configuration control package to promote source code sharing. Designed, implemented and documented multiple projects: satellite tracking software system; operator interface, record-keeping and scheduling software for experimental space-based optical (SBV) sensor; data processing software for radar measurements project; real-time classified communications software. Mentored summer students.

GTE Government Systems
Research Triangle Park, NC. Member of Technical Staff, December 1987 – August 1989.
Led effort to re-host existing network planning software to a graphics environment. Developed and implemented PC-based military communications software.

Freelance Consultant
Raleigh, NC. September 1987 – November 1987, September 1989 – April 1991.
Designed and implemented retail business software and medical laboratory database software. Audited insurance company database system. Tutored computer science undergraduates.

GRANTS AND CONTRACTS

- *STTR Phase I: Academic Assessment within a Community of Evolving Learners*, with Chris Camacho, Children's Progress Inc. Small Business Technology Transfer Program, NSF IIP #06-37713, \$149,680, 1/2007–12/2007.
- *Developing a STEM Curriculum for Early College Programs: A High School to College Continuum*, with Chaya Gurwitz, Jennifer Basil, Sophia Perdikaris, Theodore Raphan, all of Brooklyn College. NSF CCLI #06-33497, \$149,966, recommended for funding Nov 2006, start date pending.
- *Development of Assessment Technologies for Early Childhood: Phase I* with Christopher Camacho, Children's Progress Inc. Small Business Innovation Research Program, Dept of Education SBIR #ED-06-PO-0895, \$100,000, 6/2006–12/2006.
- *ITR: Evaluating education – what are we measuring and how?* NSF REU Supplement, #05-52294, \$12,500, 2006.
- *Studies in Interaction-based Learning* PSC-CUNY Award #68525-00-37, \$3,175, 7/2006–12/2006.
- *Educational Robotics Program: Introduction to LEGO Robotics*, with Joshua Koen, Passaic School District, Passaic, New Jersey Dept of Education GEAR-UP #P334A050232, subcontract \$11,255, 2006.
- *BPC-DP: Building a Bridge in Brooklyn* with Lori Scarlatos, Ira Rudowsky, Samir Chopra and Simon Parsons, all of Brooklyn College, City University of New York NSF BPC #05-40549, \$500,000, 3/2006–2/2009.
- *A Multiagent Simulation Approach to Educational Assessment* CISDD NSF-PFI NSF #PFI-03-32596 (sub-award), \$14,514, 2005–2006.
- *Track 2, GK12: Technology Integration Partnerships: Bringing Emerging STEM Research into Grades 5-12 enabled by New Technologies* with Jack McGourty, Columbia University and Susan Lowes, Teachers College NSF GK-12 #03-38329, \$1,699,219, 2004–2009. Note that my involvement in this project ended when I left Columbia in July 2005.
- *RoboCupJunior and the ACM: A partnership for technology education* Association for Computing Machinery, \$30,000, 2004.
- *Tools and techniques for automated mechanism design* with Simon Parsons, City University of New York NSF IIS #03-29037, \$532,453, 2003–2006.
- *ITR: Evaluating education – what are we measuring and how?* NSF REU Supplement, #03-31744, \$13,825, 2003.
- *Special Projects: Bridging the Gap* with Lillian Israel, Association for Computing Machinery and Diane Souvaine, Tufts University NSF CISE Special Projects #03-14231, \$32,300, 2003–2004.
- *ITR: Evaluating education — what are we measuring and how?* NSF ITR, #02-19347, \$370,377, 2002–2005.
- *ITR: Creating One to One Learning Opportunities Across the Internet* with Jordan Pollack and Ann Marion, Brandeis University NSF ITR #01-13317, subcontract \$57,000, 2001–2003.

AWARDS

- Technical Innovation Award, AAAI Robot Competition & Exhibition, July 2006.
For integration of research and education as demonstrated by the Brooklyn College Educational Robotics exhibition, by Elizabeth Sklar, Simon Parsons, M. Q. Azhar and Valerie Andrewlevich.
- CRA-W Distributed Mentorship Award, Summer 2003.
Through this award, which encourages female undergraduates to gain experience in research by working for the summer in the lab of a faculty member, I was able to fund two students who worked on educational robotics projects.
- Scientific Challenge Award, RoboCup 2002.
For paper: *RoboCupJunior: learning with educational robotics*, by Elizabeth Sklar and Amy Eguchi and Jeffrey Johnson, Proceedings of RoboCup-2002: Robot Soccer World Cup VI.
- Best Student Paper Award, Workshop on Evolutionary Computation and Cognitive Science
For paper: *Using an evolutionary algorithm to guide problem selection in an online educational game*, by Elizabeth Sklar and Jordan Pollack, Proceedings of the Workshop on Evolutionary Computation and Cognitive Science (ECCS-2000).
- Best Paper Nomination, Intelligent Agent Technology
For paper: *Training Intelligent Agents Using Human Internet Data*, by Elizabeth Sklar, Alan D. Blair, Pablo Funes and Jordan Pollack, Proceedings of the First Asia-Pacific Conference on Intelligent Agent Technology (IAT-99).

PUBLICATIONS

phd thesis:

Elizabeth Sklar. *CEL: A Framework for Enabling an Internet Learning Community*. PhD thesis, Department of Computer Science, Brandeis University, 2000.

articles in refereed journals and books:

Elizabeth Sklar. Software review: Netlogo, a multiagent simulation environment. *Journal of Artificial Life*, 13(2), 2007.

Gerhard Lakemeyer, Elizabeth Sklar, Domenico Sorrenti, and Tomoichi Takahashi (editors). *RoboCup 2006: Robot Soccer World Cup X, Lecture Notes in Artificial Intelligence (LNAI)*. Springer, 2006.

Elizabeth Sklar, Simon Parsons, and Peter Stone. Using RoboCup in university-level computer science education. *Journal on Educational Resources in Computing (JERIC), Special Issue on robotics in undergraduate education, part I*, 4(2), June 2004.

Elizabeth Sklar, Alan D. Blair, and Jordan B. Pollack. Chapter 8: Training Intelligent Agents Using Human Data Collected on the Internet. In *Agent Engineering*, pages 201–226. World Scientific, Singapore, 2001.

Elizabeth Sklar and Jordan B. Pollack. A Framework for Enabling an Internet Learning Community. *Journal of International Forum of Educational Technology & Society, Special Issue on On-line Collaborative Learning Environments*, 3(3):393–408, July 2000.

invited articles:

RoboCup: Yesterday, Today, and Tomorrow Workshop of the Executive Committee in Blaubeuren, October 2003. *RoboCup 2003: Robot Soccer World Cup VII, Lecture Notes in Computer Science*, 3020, 2004.

Elizabeth Sklar, Emi Amy Eguchi, and Jeffrey Johnson. Scientific Challenge Award: RoboCupJunior — Learning with Educational Robotics. *AI Magazine*, 24(2):43–46, 2003.

Minoru Asada, Oliver Obst, Daniel Polani, Brett Browning, Andrea Bonarini, Masahiro Fujita, Thomas Christaller, Tomoichi Takahashi, Satoshi Tadokoro, Elizabeth Sklar, and Gal A. Kaminka. An Overview of RoboCup-2002 Fukuoka/Busan. *AI Magazine*, 24(2):21–40, 2003.

Elizabeth Sklar. RoboCupJunior 2002: The state of the league. In *Proceedings of RoboCup-2002: Robot Soccer World Cup VI*, pages 489–495, 2002.

full papers in refereed conferences:

Simon Parsons, Peter McBurney, Elizabeth Sklar, and Michael Wooldridge. On the relevance of utterances in formal inter-agent dialogues. In *Sixth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2007)*, 2007.

Rachel Goldman, M. Q. Azhar, and Elizabeth Sklar. From RoboLab to Aibo: A Behavior-based Interface for Educational Robotics. In *Proceedings of RoboCup-2006: Robot Soccer World Cup X*, 2006.

Elizabeth Sklar and Debbie Richards. The use of agents in human learning systems. In *Fifth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS-2006)*, 2006.

Simon Parsons Jinzhong Niu, Kai Cai and Elizabeth Sklar. Reducing price fluctuation in continuous double auctions through pricing policy and shout improvment. In *Fifth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS-2006)*, 2006.

Elizabeth Sklar and Mathew Davies. Multiagent simulation of learning environments. In *Fourth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS-2005)*, 2005.

Elizabeth Sklar and Amy Eguchi. RoboCupJunior – Four Years Later. In *Proceedings of the Eighth International RoboCup Symposium*, 2004.

Elizabeth Sklar, Mathew Davies, and Min San Tan Co. SimEd: Simulating Education as a MultiAgent System. In *Proceedings of the Third International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, pages 998–1005, 2004.

Rachel Goldman, Amy Eguchi, and Elizabeth Sklar. Using Educational Robotics to Engage Inner-City Students with Technology. In *Proceedings of the Sixth International Conference of the Learning Sciences (ICLS)*, pages 214–221, 2004.

Elizabeth Sklar. A long-term approach to improving human-robot interaction: RoboCupJunior Rescue. In *Proceedings of the International Conference on Robotics and Automation (ICRA)*, 2004.

Elizabeth Sklar, Simon Parsons, and Peter Stone. RoboCup in Higher Education: A Preliminary Report. In *Proceedings of RoboCup-2003: Robot Soccer World Cup VII*, 2003.

Elizabeth Sklar, Emi Amy Eguchi, and Jeffrey Johnson. Examining Team Robotics through RoboCupJunior. In *Annual conference of Japan Society for Educational Technology, Nagaoka, Japan*, 2002.

Elizabeth Sklar, Amy Eguchi, and Jeffrey Johnson. RoboCupJunior: learning with educational robotics. In *Proceedings of RoboCup-2002: Robot Soccer World Cup VI*, pages 238–253, 2002. Received Scientific Challenge Award.

Elizabeth Sklar, Jeffrey H. Johnson, and Henrik Hautop Lund. The Educational Value of Children’s Team Robotics: A Case Study of RoboCup Junior. In *Proceedings of the Seventh International Symposium on Artificial Life and Robotics (AROB)*, 2002.

Elizabeth Sklar and Jordan B. Pollack. An evolutionary approach to guiding students in an educational game. In *Proceedings of the Sixth International Conference on Simulation of Adaptive Behavior (SAB)*, 2000.

Elizabeth Sklar, Alan D. Blair, Pablo Funes, and Jordan Pollack. Training Intelligent Agents Using Human Internet Data. In *Proceedings of the First Asia-Pacific Conference on Intelligent Agent Technology (IAT)*,

pages 354–363, 1999. Nominated for best paper award.

Alan D. Blair and Elizabeth Sklar. Exploring evolutionary learning in a simulated hockey environment. In *Proceedings of the 1999 Congress on Evolutionary Computation (CEC)*, pages 197–203, 1999.

Alan D. Blair, Elizabeth Sklar, and Pablo Funes. Co-evolution, Determinism and Robustness. In *Simulated Evolution and Learning (SEAL), Lecture Notes in Artificial Intelligence*, volume 1585, pages 389–396. Springer-Verlag, 1998.

Pablo Funes, Elizabeth Sklar, Hugues Juillé, and Jordan B. Pollack. Animal-Animat Coevolution: Using the Animal Population as Fitness Function. In *Proceedings of the Fifth International Conference on Simulation of Adaptive Behavior (SAB)*, pages 525–533. MIT Press, 1998.

posters in refereed conferences:

Elizabeth Sklar, Jordan Salvit, Christopher Camacho, William Liu, and Valerie Andrewlevich. An agent-based methodology for analyzing and visualizing educational assessment. In *Sixth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2007)*, 2007.

Yuqing Tang, Simon Parsons, and Elizabeth Sklar. An agent-based model that relates investment in education to economic prosperity. In *Sixth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2007)*, 2007.

Marek Marcinkiewicz, Mikhail Kunin, Simon Parsons, Elizabeth Sklar, and Theodore Raphan. Towards a methodology for stabilizing the gaze of a quadrupedal robot. In *Proceedings of RoboCup-2006: Robot Soccer World Cup X*, 2006.

A. Tuna Ozgelen, Elizabeth Sklar, and Simon Parsons. Automatic acquisition of robot motion and sensor models. In *Proceedings of RoboCup-2006: Robot Soccer World Cup X*, 2006.

Simon Parsons Yuqing Tang and Elizabeth Sklar. Agent-based modeling of human education data. In *Fifth International Conference on Autonomous Agents and Multi Agent Systems (AAMAS-2006)*, 2006.

Vanessa Frias-Martinez, Elizabeth Sklar, and Simon Parsons. Exploring auction mechanisms for role assignment in teams of autonomous robots. In *Proceedings of RoboCup-2004: Robot Soccer World Cup VIII*, 2004.

Elizabeth Sklar and Simon Parsons. Towards the Application of Argumentation-based Dialogues for Education. In *Proceedings of the Third International Conference of Autonomous Agents and Multi Agent Systems (AAMAS)*, pages 1420–1421, 2004.

John Anderson, Jacky Baltes, David Livingston, Elizabeth Sklar, and Jonah Tower. Toward an Undergraduate League for RoboCup. In *Proceedings of RoboCup-2003: Robot Soccer World Cup VII*, 2003.

Elizabeth Sklar. Agents for Education: When too much intelligence is a bad thing. In *Proceedings of the Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, pages 1118–1119, 2003.

Steve Phelps, Simon Parsons, Elizabeth Sklar, and Peter McBurney. Applying Genetic Programming to Economic Mechanism Design: Evolving a pricing rule for a continuous double auction. In *Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, pages 1096–1097, 2003.

Elizabeth Sklar and Jordan B. Pollack. Demonstrating a Community of Evolving Learners. In *Computer Supported Collaborative Learning (CSCL)*, 1999. Interactive Presentation.

Alan D. Blair and Elizabeth Sklar. The evolution of subtle manoeuvres in simulated hockey. In *Proceedings of the Fifth International Conference on Simulation of Adaptive Behavior (SAB)*. MIT Press, 1998.

Elizabeth Sklar and Jordan B. Pollack. Toward a Community of Evolving Learners. In *Proceedings of the Third International Conference on the Learning Sciences (ICLS)*, 1998.

Elizabeth Sklar (Rozier) and Richard Alterman. Participatory Adaptation. In *Proceedings of the Conference*

on *Human Factors in Computer Systems (CHI)*, pages 261–262, 1997.

papers in refereed workshops:

Yuqing Tang, Simon Parsons, and Elizabeth Sklar. An agent-based model that relates investment in education to economic prosperity. In *Multi-agent Based Simulation (MABS) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS-2007)*, 2007.

Maartje Spoelstra and Elizabeth Sklar. Agent-based simulation of group learning. In *Multi-agent Based Simulation (MABS) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS-2007)*, 2007.

Maartje Spoelstra and Elizabeth Sklar. Using simulation to model and understand group learning. In *Agent-Based Systems for Human Learning and Entertainment (ABSHLE) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS-2007)*, 2007.

Elizabeth Sklar, Simon Parsons, and M. Q. Azhar. Robotics across the curriculum. In *AAAI Spring Symposium on Robots and Robot Venues: Resources for AI Education*, 2007.

Susan Imberman, Aleksandr Barkan, and Elizabeth Sklar. Extra-curricular robotics: Entry-level soccer for undergraduates. In *AAAI Spring Symposium on Robots and Robot Venues: Resources for AI Education*, 2007.

Micha Tomkiewicz, Maxim Titley, Alison Cichowski, Vinit Parmar, Elizabeth Sklar, Philip Gallagher, and Mary Gallagher. Toward management of an energy feeding transtion. In *CUNY Sustainability Conference on Energy and Environmental Sustainability: Science, Engineering, and Public Policy*, City University of New York, December 8 2006.

Joshua Reich and Elizabeth Sklar. Robot-sensor networks for search and rescue. In *Proceedings of the IEEE International Workshop on Safety, Security and Rescue Robotics (SSRR)*, 2006.

Elizabeth Sklar, Simon Parsons, M. Q. Azhar, and Valerie Andrewlevich. Educational Robotics in Brooklyn. In *Proceedings of the AAAI-06 Mobile Robot Workshop (long version)*, 2006.

Elizabeth Sklar, Simon Parsons, M. Q. Azhar, and Valerie Andrewlevich. Educational Robotics in Brooklyn. In *Proceedings of the AAAI-06 Mobile Robot Workshop (short version from conference proceedings)*, 2006.

Joshua Reich and Elizabeth Sklar. Toward automatic reconfiguration of robot-sensor networks for urban search and rescue. In *Agent Technology for Disaster Management (ATDM) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS-2006)*, 2006.

Yuqing Tang, Simon Parsons, and Elizabeth Sklar. Modeling human education data: From equation-based modeling to agent-based modeling. In *Multi-agent Based Simulation (MABS) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS-2006)*, 2006.

M. Q. Azhar, Rachel Goldman, and Elizabeth Sklar. An agent-oriented behavior-based interface framework for educational robotics. In *Agent-Based Systems for Human Learning (ABSHL) Workshop at Autonomous Agents and MultiAgent Systems (AAMAS-2006)*, 2006.

Elizabeth Sklar, Martijn Schut, Konrad Diwold, and Simon Parsons. Exploring coordination properties within populations of distributed agents. In *AAAI Spring Symposium on Distributed Plan and Schedule Management*, 2006.

Simon Parsons and Elizabeth Sklar. How agents alter their beliefs after an argumentation-based dialogue. In *Proceedings of the Workshop on Argumentation in Multiagent Systems (ArgMAS) at Autonomous Agents and MultiAgent Systems (AAMAS-2005)*, 2005.

Kar-Hai Chu, Rachel Goldman, and Elizabeth Sklar. Roboxap: an agent-based educational robotics simulator. In *Agent-based Systems for Human Learning Workshop at Autonomous Agents and MultiAgent Systems (AAMAS-2005)*, 2005.

Vanessa Frias-Martinez and Elizabeth Sklar. A framework for exploring role assignment in real-time, multiagent teams. In *The second European Workshop on Multi-Agent Systems (EUMAS)*, 2004.

Vanessa Frias-Martinez and Elizabeth Sklar. A team-based co-evolutionary approach to multi agent learning. In *Proceedings of the Workshop on Learning and Evolution in Agent-based Systems (LEAS) at Autonomous Agents and MultiAgent Systems (AAMAS-2004)*, 2004.

Elizabeth Sklar, Simon Parsons, and Mathew Davies. When is it okay to lie? a simple model of contradiction in agent-based dialogues. In *Proceedings of the Workshop on Argumentation in Multiagent Systems (ArgMAS) at Autonomous Agents and MultiAgent Systems (AAMAS-2004)*, 2004.

Simon Parsons and Elizabeth Sklar. Teaching AI using LEGO Mindstorms. In *AAAI Spring Symposium 2004 on Accessible Hands-on Artificial Intelligence and Robotics Education*, 2004.

Jacky Baltès, Elizabeth Sklar, and John Anderson. Teaching with RoboCup. In *AAAI Spring Symposium 2004 on Accessible Hands-on Artificial Intelligence and Robotics Education*, 2004.

Elizabeth Sklar and Amy Eguchi. Learning while Teaching Robotics. In *AAAI Spring Symposium 2004 on Accessible Hands-on Artificial Intelligence and Robotics Education*, 2004.

Mathew Davies and Elizabeth Sklar. Modeling Human Learning as a Cooperative Multi Agent Interaction. In *AAMAS Workshop on Humans and Multi-Agent Systems, at the Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, 2003.

Elizabeth Sklar and Simon Parsons. RoboCupJunior: a vehicle for enhancing technical literacy. In *Proceedings of the AAAI-02 Mobile Robot Workshop*, 2002.

Steve Phelps, Peter McBurney, Simon Parsons, and Elizabeth Sklar. Co-evolutionary mechanism design: a preliminary report. In *Proceedings of AMEC-2002 Workshop on Agent Mediated Electronic Commerce, at Autonomous Agents and Multiagent Systems Conference (AAMAS), Lecture Notes in Artificial Intelligence*, volume 2531, pages 123–142. Springer-Verlag, 2002.

Steve Phelps, Simon Parsons, Peter McBurney, and Elizabeth Sklar. Co-evolution of Auction Mechanisms and Trading Strategies: Towards a Novel Approach to Microeconomic Design. In *Proceedings of ECOMAS-2002 Workshop on Evolutionary Computation in Multi-Agent Systems, at Genetic and Evolutionary Computation Conference (GECCO)*, 2002.

Elizabeth Sklar and Jordan Pollack. Using an evolutionary algorithm to guide problem selection in an online educational game. In *Workshop on Evolutionary Computation and Cognitive Science (ECCS)*, 2000. Received best student paper award.

Elizabeth Sklar, Alan D. Blair, and Jordan B. Pollack. Co-Evolutionary Learning: Machines and Humans Schooling Together. In *Proceedings of the Workshop on Current Trends and Applications of Artificial Intelligence in Education at the Fourth World Congress on Expert Systems*, pages 98–105, 1998.

articles in refereed newsletters:

Jonah Benton and Elizabeth Sklar. Evolving a Community for Evolving Learners. *Learning Technology newsletter*, 6(1), 2004.

papers in unrefereed workshops:

A. Tuna Ozgelen, Joel Kammet, Marek Marcinkiewicz, Simon Parsons, and Elizabeth Sklar. The 2007 MetroBots Four-legged League Team Description Paper. In *Proceedings of RoboCup-2007: Robot Soccer World Cup XI*, 2007. (to appear).

Vanessa Frias-Martinez, Marek Marcinkiewicz, Simon Parsons, and Elizabeth Sklar. Using Multiagent Coordination Techniques in the RoboCup Four-legged League. In *AAAI Spring Symposium 2004 on Bridging the multiagent and multirobotic research gap*, 2004.

Vanessa Frias-Martinez, Marek Marcinkiewicz, Simon Parsons, and Elizabeth Sklar. MetroBots Team Description. In *Proceedings of RoboCup-2004: Robot Soccer World Cup VIII*, 2004.

Michael Littman, Simon Parsons, and Elizabeth Sklar. MetroBots Team Description. In *Proceedings of*

RoboCup-2003: Robot Soccer World Cup VII, 2003.

Elizabeth Sklar. It Takes a Virtual Village: Towards an Automated Interactive Agency. In *AAAI 2002 Fall Symposium on Personalized Agents*, 2002.

technical reports:

Elizabeth Sklar. The Design of the CEL System. Technical report, 2001. unpublished.

Elizabeth Sklar, Jeffrey Johnson, and Henrik Hautop Lund. Children Learning from Team Robotics: RoboCup Junior 2000 Report: Educational Research Report. Technical report, The Open University, Milton Keynes, UK, 2000.

Elizabeth Sklar. Agents for Education: Bringing Adaptive Behavior to an Internet Learning Community. Technical report, Department of Computer Science, Brandeis University, 1999. Dissertation Proposal.

Pablo Funes, Elizabeth Sklar, Hugues Juillé, and Jordan B. Pollack. The Internet as a Virtual Ecology: Coevolutionary Arms Races Between Human and Artificial Populations. Technical Report CS-97-197, Brandeis University Computer Science Department Technical Report, 1997.

Elizabeth Sklar and J. Kent Pollock. FLIPPER Programmer's Manual. Technical Report LM-196, MIT Lincoln Laboratory Manual, 1996.

Elizabeth Sklar, David R. Shue, John W. Curtis, Chris C. Cullinane, Tony C. Hayes, and J. Kent Pollock. FLIPPER User's Manual. Technical Report LM-182, MIT Lincoln Laboratory Manual, 1993.

TEACHING

- *Introduction to Computing using C++: Robotics Applications (cis1.5)*
Dept of Computer Science and Information Science, Brooklyn College, City University of New York
Spring 2007 (11 students)
This is a “flavored” version of the department’s course that introduces computer programming to intended CS majors. This Robotics flavor provides a unified context for the material presented and involves hands-on programming labs in C++ and using Surveyor SRV1 robots.
- *Computing: Nature, Power and Limits; Robotics Applications (cis1.0)*
Dept of Computer Science and Information Science, Brooklyn College, City University of New York
Fall 2006 (22 students)
This is a “flavored” version of the department’s lower tier core course that introduces computer science to non-majors. This Robotics flavor provides a unified context for the material presented and involves hands-on programming labs with LEGO robotics.
- *Seminar in Artificial Intelligence: Topics in AI and Robotics (csc-84200)*
Dept of Computer Science, Graduate Center, City University of New York
Fall 2006 (12 students)
This graduate seminar includes readings and discussion covering the field of robotics, with a focus on emerging and state-of-the-art technologies.
- *Artificial Intelligence (cis-32)*
Dept of Computer and Information Science, Brooklyn College, City University of New York
Spring 2006
This is a survey course covering topics in Artificial Intelligence at the introductory level, designed for undergraduate majors in computer and information science. The course includes a hands-on robotics project used to demonstrate concepts discussed in lectures and readings.
- *Independent Undergraduate, Masters and Doctoral Projects*
Dept of Computer and Information Science, Brooklyn College, City University of New York

Dept of Computer Science, Graduate Center, City University of New York
Fall 2005, Spring 2006, Fall 2006, Spring 2007

Each semester, I have supervised a number of undergraduate students in a variety of research projects. These include a tutoring component in which students work with a teacher in a public school to help integrate educational robotics into their classroom and curriculum.

- *Electronic Commerce (cis-3.2)*
Dept of Computer and Information Science, Brooklyn College, City University of New York
Fall 2005, Spring 2006.
- *Seminar in Artificial Intelligence: Topics in Artificial Life (csc-84200)*
Dept of Computer Science, Graduate Center, City University of New York
Fall 2005
This graduate seminar included readings, discussion and development of a demonstration project covering the field of “ALife” since its infancy in the early 1990’s.
- *Advanced Programming (coms-w3157)*
Dept of Computer Science, Columbia University
Fall 2002, Spring 2003, Fall 2003, Spring 2004, Fall 2004
I have been instrumental in designing and developing this course, helping it to fit into the undergraduate curriculum for computer science majors. I introduced the notion of programming labs in the department, through this course.
- *Projects in Computer Science (coms-w3998, coms-w4901, coms-w6901)*
Dept of Computer Science, Columbia University
Fall 2001, Spring 2002, Fall 2002, Spring 2003, Fall 2003, Spring 2004, Fall 2004
Each semester, I have supervised a number of undergraduate and graduate students in a variety of research projects.
- *Introduction to Computer Science in Java (coms-w1007)*
Dept of Computer Science, Columbia University
Fall 2001, Spring 2002, Fall 2002
- *Computer Science I, in C (mc140)*
Dept of Computer Science, Boston College
Spring 2001
- *Introduction to Robotics (mc375)*
Dept of Computer Science, Boston College
Spring 2001
I developed and taught this course, which focuses on embodied agents, and includes a lab segment where students build and program LEGO robots to demonstrate some of the concepts they are learning about in the lecture portion of the course.
- *Internet and Society (cs33b)*
Dept of Computer Science, Brandeis University
Spring 2001
This was a collaborative, interdisciplinary course. I was lucky enough to be a member of the development team and was a guest lecturer on the subject of Internet learning communities.
- *Computer Science I, in C (mc140)*
Dept of Computer Science, Boston College
Fall 2000
- *The computer industry: historical, social and professional issues (cse-3323)*
Dept of Computer Science, Monash University, Australia
Summer 2000

- *Frontiers of Computer Science (433-257)*
 Dept of Computer Science, University of Melbourne, Australia
 Summer 2000
 I was guest lecturer for a segment of this course and I taught on the topic of Internet learning communities and Intelligent Tutoring Systems.

ADVISING

- PhD students
 - Artyom Diky (since November 2006)
 - Ilknur Icke (since November 2006)
 - Rachel Friedman (since Summer 2006)
 - Sadat Chowdury (since January 2006)
 - M. Q. Azhar (since September 2005)
 - A. Tuna Ozgelen (since September 2005)
- MS students
 - Barbra Ehlers (since September 2006)
 - Gennadiy Trakhtman (since February 2006)
 - Valerie Andrewlevich (since January 2006)
 - Jordan Salvit (since September 2005)
 - Maartje Spoelstra, graduated August 2006
 - Rachel Goldman, graduated October 2005
 - William Liu, graduated October 2005
 - Kar Hai Chu, graduated May 2005
 - Min San Tan Co, graduated May 2005
 - Mathew Davies, graduated May 2005
 - Michael Ockfen-Metcalf, graduated May 2004
 - Joshua Reich, graduated May 2004
 - Yaniv Schiller, graduated May 2004
 - Max Shevyakov, graduated December 2003
- Visiting students
 - Hans Kuipers, Utrecht University, The Netherlands, May 2006–October 2006.
 - Maartje Spoelstra, Vrije Universiteit Amsterdam, The Netherlands, September 2005–March 2006.
 - Martijn Rooker, International University Bremen, Germany, October–December 2003.

DEPARTMENTAL ADVISING

- Columbia Women in Computer Science (WICS), *Faculty Advisor*, 2003–2005.

- Association for Computing Machinery (ACM) Columbia Student Chapter, *Faculty Advisor*, 2003–2005.
- Barnard College, *Computer Science Majors Advisor*, 2001–2005.
- Columbia RoboCup ELeague team, *Faculty Advisor*, 2003–2004.
- Stuyvesant High School RoboCup team, *Faculty Advisor*, 2003.

TUTORIALS and TRAINING WORKSHOPS

- *RoboCupJunior @ NYC Teacher Training Workshops*, at Brooklyn College and the Graduate Center, City University of New York, New York, NY (January 2007; December 2006; February 2006; January 2006; December 2005).
- *Education-based Multiagent Systems*, with Dr Lewis Johnson, University of Southern California and Dr Uri Wilensky, Northwestern University. Tutorial given at AAMAS-05 (Autonomous Agents and Multiagent Systems), July 2005, in Utrecht, The Netherlands.
- *Robotics for Beginners: Using Robot Kits to Build Embodied Agents*, with Dr Simon Parsons, Brooklyn College, City University of New York. Tutorial given at EASSS-05 (Seventh European Agent Systems Summer School), July 2005, in Utrecht, The Netherlands.
- *Robotics for Beginners; Using Robot Kits to Teach Agents and AI*, with Dr Simon Parsons, Brooklyn College, City University of New York. Tutorial given at AAAI-05 (National Conference of the American Association for Artificial Intelligence), July 2005, in Pittsburgh, PA, USA.
- *GK12 Teacher Training Workshop, Introduction to Robotics*, July 2005, Columbia University, New York, NY (July 2005; July 2004; August 2003).
- *Using Robot Kits as a Pedagogical Tool for Teaching Autonomous Agents*, with Dr Simon Parsons, Brooklyn College, City University of New York. Tutorial given at AAMAS-03 (Autonomous Agents and Multiagent Systems), July 2003, in Melbourne, Australia.
- *JETT@Columbia Java Workshops for Teachers*, Columbia University, New York, NY (May 2003; March 2003; July 2002).

INVITED TALKS and DEPARTMENTAL SEMINARS

- Computational Synthesis Lab, Departments of Mechanical and Aerospace Engineering and Computer & Information Science, Cornell University
Itaca, NY, February 2007.
- Department of Computer Science, Georgetown University
Washington, DC, October 2006.
- Department of Computer Science, University of Southern California
Los Angeles, CA, March 2006.
- Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore County
Baltimore, MD, December 2005.

- Research at CUNY Seminar, Department of Computer Science, Graduate Center, City University of New York
New York, NY, November 2005.
- Department of Computer Science, Vassar College
Poughkeepsie, NY, November 2005.
- Department of Computer and Information Science, Brooklyn College, City University of New York
Brooklyn, NY, January 2005.
- AI Seminar Series, Carnegie Mellon University
Pittsburgh, PA, November 2004.
- 2004 Computer Science & Information Technology Symposium
Norfolk, VA, March 2004.
- School of General Studies Lecture Series, Columbia University
New York, NY, December 2003.
- RoboCup American Open Symposium, Carnegie Mellon University
Pittsburgh, PA, April 2003.
- Department of Computer Science, Columbia University
New York, NY, March 2001.
- Department of Information Science and Telecommunications, University of Pittsburgh
Pittsburgh, PA, March 2001.
- Department of Computer Science, Boston College
Chestnut Hill, MA, March 2001.
- Neural Information Processing Department, University of Ulm
Ulm, Germany, January 2001.
- Artificial Intelligence Laboratory, Flemish Free University of Brussels
Brussels, Belgium, January 2001.
- Department of Computer Science, University of Arizona
Tucson, AZ, February 2000.
- Department of Computer Science, Colorado State University
Fort Collins, CO, February 2000.
- Department of Computer Engineering and Computer Science, University of Missouri-Columbia
Columbia, MO, February 2000.
- Department of Computer Science, Brandeis University
Waltham, MA, February 2000.
- Department of Computer Science, University of Melbourne
Melbourne, Australia, September 1999 and January 2000.
- School of Information Technology, Charles Sturt University
Bathurst (NSW), Australia, September 1999.
- Department of Computing, Macquarie University
Sydney, Australia, September 1999.
- School of Computer Science, Monash University
Melbourne, Australia, August 1999.

- University of Queensland
Brisbane, Australia, July 1999 and July 1998.

COMMITTEES and ACADEMIC SERVICE

service to the institution:

- Undergraduate Curriculum Committee, Dept of Computer and Information Science, Brooklyn College, City University of New York, Spring 2006 to present.
- Master Planning Committee, Brooklyn College, City University of New York, Fall 2006 to present.
- Science Research Council, Brooklyn College, City University of New York, Spring 2007 to present.

service to the community:

- Autonomous Agents and Multi Agent Systems (AAMAS-2008), *Senior Program Committee Member*
- Autonomous Agents and Multi Agent Systems (AAMAS-2007), *Workshops Chair*
- Agent-based Systems for Human Learning and Entertainment Workshop (ABSHLE) at Autonomous Agents and Multi Agent Systems (AAMAS-2007), *Co-Chair*
- Workshop on Agent Mediated Electronic Commerce IX (AMEC) at Autonomous Agents and Multi Agent Systems (AAMAS-2007), *Organizing Committee Member*
- Multi-Agent-Based Simulation Workshop (MABS) at Autonomous Agents and Multi Agent Systems (AAMAS-2007), *Program Committee Member*
- Argumentation in Multi-Agent Systems Workshop (ArgMAS) at Autonomous Agents and Multi Agent Systems (AAMAS-2007), *Program Committee Member*
- IEEE/WIC/ACM International Joint Conference on Intelligent Agent Technology (IAT) 2007, *Program Committee Member*
- RoboCup International Symposium 2006, *Co-Chair*
- Autonomous Agents and Multi Agent Systems (AAMAS-2006), *Senior Program Committee Member*
- Autonomous Agents and Multi Agent Systems (AAMAS-2006), *Doctoral Mentoring Symposium Mentor*
- Second Agent-based Systems for Human Learning Workshop (ABSHL) at Autonomous Agents and Multi Agent Systems (AAMAS-2006), *Co-Chair*
- American Association for Artificial Intelligence (AAAI-2006), *Program Committee Member*
- RoboCupJunior @ NYC, *Chair, 2006-7*
- Ibero-American Artificial Intelligence Conference (Iberamia) 2006, *Program Committee Member*
- Autonomous Agents and Multi Agent Systems (AAMAS-2005), *Program Committee Member*
- First Agent-based Systems for Human Learning Workshop (ABSHL) at Autonomous Agents and Multi Agent Systems (AAMAS-2005), *Co-Chair*
- Autonomous Agents and Multi Agent Systems (AAMAS-2004), *Local Organization Co-Chair*

- RoboCup Federation, *Trustee* (2004–present); *Member of Executive Committee* (2001–present)
- RoboCupJunior International, *Founding Member*; *Local Organizer*, 2000; *League Chair*, 2001–2002, 2007; *Member of Organizing Committee*, 2003–2004
- RoboCup American Open 2003, *Member of Organizing Committee*
- RoboCup International Symposium, *Member of Program Committee*, 2001–2003
- The Nineteenth National Conference on Artificial Intelligence (AAAI-04), *Member of Program Committee*
- AAAI Spring 2004 Symposium on AI Education with Low-cost Robotic Platforms
Member of Program Committee.
- Autonomous Agents and Multi Agent Systems (AAMAS-2003) Workshop on Humans and Multi Agent Systems
Member of Program Committee
- International Joint Conference on Artificial Intelligence (IJCAI-2003)
Reviewer
- ACM Java Engagement for Teacher Training (JETT)
National Co-Chair of Pilot Program (2002–2003)
Member of Steering Committee (2003–2004)
- Autonomous Agents 2001
Member of Robot Program Committee
- RoboFesta International Forum 2001
Member of Program Committee
- Workshop on Evolutionary Computation and Cognitive Science (ECCS-2000)
Local Organizer
- NSF review panels, several times since 2002.
- PhD candidacy and dissertation committees

OUTREACH AND COMMUNITY SERVICE

- Starting in Fall 2005, I began an outreach program to public and independent schools and after-school programs in Brooklyn, NY. This program involves pairing undergraduate and masters students with in-practice teachers to help them bring educational robotics into their classrooms and curricula. To date, we have worked with 6 schools.
- Through funding provided by NSF GK12 grants and the CRA-W Distributed Mentorship Program, I have supervised students teaching robotics to inner-city high school students at summer schools in the Science and Technology Entry Program (STEP) at Barnard College (2003 and 2004) and Playing2Win, a community center in Harlem, NY (2003).
- The School at Columbia (primary school), established September 2003. During their first school year (2003–04), I helped the teachers and technology coordinators to establish educational robotics activities in the curriculum for 2nd-4th graders and for their afterschool program. This involved advising on equipment purchases, initiating teacher training, and providing graduate and undergraduate students to work in class with the teachers.
- From 1997-2001, I was a member of Technology Team at the Maria Hastings Elementary School in Lexington, MA, which was a committee of parents, teachers, school administrators and community members who were charged with helping integrate technology effectively in the classroom. I chaired the committee for two years (1997–1999).

CITIZENSHIP

- U.S.A.