

ALYSSA GLASS

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SUMMARY

Artificial intelligence, explanation, task execution

My recent research focuses on making machine learning-based systems more understandable, transparent, and trustworthy for users. My dissertation explores how intelligent assistants and cognitive agents can use explanation to improve usability, effectiveness, and end-user satisfaction. I have also done work in multi-agent systems, decision theory, human-computer interaction, robotics, and economics.

EDUCATION

- JANUARY 2011
(EXPECTED) Stanford University, Stanford, CA
Ph.D. in Computer Science
Dissertation: *Explanation of Adaptive Systems*
Advisors: Michael Genesereth, Deborah L. McGuinness
- SEPTEMBER 2009 Stanford University, Stanford, CA
M.S. in Computer Science
Advisors: Michael Genesereth, Deborah L. McGuinness
- JUNE 1999 Harvard University, Cambridge, MA
A.B. magna cum laude with highest honors in Computer Science
Advisor: Barbara J. Grosz

EMPLOYMENT

- 2004 – PRESENT Stanford University, Stanford, CA
Graduate Research Assistant
Research with Deborah L. McGuinness and Michael Genesereth. Studied the use of explanations to establish trust in complex systems, focusing on machine learning and task execution. Expanded Inference Web infrastructure and developed extensions to the Proof Markup Language (PML). Conducted user studies.

- 2003 – PRESENT SRI International, Menlo Park, CA
Computer Scientist
 Research on task execution, multi-agent collaboration, and explanations, centered on the Cognitive Assistant that Learns and Organizes (CALO) project. Contributed to the development of the open-source SPARK execution system. Designed and implemented multi-agent task collaboration system.
- 2007 – 2009 Willow Garage, Menlo Park, CA
Research Liaison
 Provided strategic advice and guidance for small, privately-funded robotics research lab start-up. Assisted CEO with positioning and hiring. Advised on artificial intelligence research and helped to establish and maintain professional connections to the research community. Part-time.
- 1999 – 2003 Palo Alto Research Center (formerly Xerox PARC), Palo Alto, CA
Member of Research Staff
 Led advanced development and commercialization efforts for several research projects. Designed prototypes and customer-ready products. Coordinated business efforts, and demonstrated projects to potential customers and licensing partners. Architected and specified engineering plans. Research and software development for projects in human-computer interaction, robotics, and distributed systems.
- SUMMER 1998 Sun Microsystems Laboratories, Chelmsford, MA
Research Engineer
 Research with Bill Woods on conceptual indexing. Designed and implemented core project component. Resolved design and implementation issues for natural language lexicon, and participated in project planning sessions.
- 1997 – 1998 National Bureau of Economic Research, Cambridge, MA
Research Intern
 Research with Brian J. Hall on corporate compensation and stock option modeling. (Joint work with Harvard Business School and John F. Kennedy School of Government.) Wrote computer programs to create and manipulate databases. Ran simulations and projections. Analyzed data.

AWARDS AND FELLOWSHIPS

- 2006 SRI Presidential Achievement Award
- 2004 SRI Research Spot Award
- 2003 Stanford Graduate Fellowship (declined)
- 2000 Xerox Research & Technology Excellence in Science and Tech. Award
- 1999 Xerox Research & Technology Special Recognition Award
- 1995 – 1999 John Harvard Scholarship for Academic Achievement
- 1995 – 1999 Elizabeth Cary Agassiz Scholarship for Academic Achievement
- 1995 – 1999 Harvard College Dean's List

- 1995 Tandy Technology Scholar
 1995 National Merit Semifinalist

REFEREED PUBLICATIONS

JOURNAL ARTICLES

Alyssa Glass, Deborah L. McGuinness, Paulo Pinheiro da Silva, and Michael Wolverton. "Trustable Task Processing Systems." In Roth-Berghofer, T., and Richter, M.M., editors, *KI Journal, Special Issue on Explanation*, Kunstliche Intelligenz, 2008.

Alyssa Glass and Barbara J. Grosz. "Socially Conscious Decision-Making." *Journal of Automated Agents and Multi-Agent Systems*. American Association of Artificial Intelligence, 2003.

CONFERENCE PAPERS

Alyssa Glass, Deborah L. McGuinness, and Michael Wolverton. "Toward Establishing Trust in Adaptive Agents." *Proceedings of 2008 International Conference on Intelligent User Interfaces (IUI2008)*, Canary Islands, Spain, 2008.

Deborah L. McGuinness, **Alyssa Glass**, Michael Wolverton, and Paulo Pinheiro da Silva. "Explaining Task Processing in Cognitive Assistants that Learn." *Proceedings of FLAIRS'07*, Key West, Florida, 2007.

Bongwon Suh, Allison Woodruff, Ruth Rosenholtz, and **Alyssa Glass**. "Popout Prism: Using Perceptual Principles with Overview+Detail." *Proceedings of CHI Conference on Human Factors in Computing Systems (CHI-2002)*. Association for Computing Machinery, Minneapolis, Minnesota, 2002.

Alyssa Glass and Barbara J. Grosz. "Socially Conscious Decision-Making." *Proceedings of the Fourth International Conference on Autonomous Agents (Agents 2000)*. American Association of Artificial Intelligence, Barcelona, Spain, 2000.

Alyssa Glass and Barbara J. Grosz. "Socially Conscious Agents." *6th Bar-Ilan Symposium on the Foundations of Artificial Intelligence (BISFAI 1999)*. Israel Association for Artificial Intelligence, Ramat Gan, Israel, 1999.

David G. Sullivan, **Alyssa Glass**, Barbara J. Grosz, and Sarit Kraus. "Intention Reconciliation in the Context of Teamwork: An Initial Empirical Investigation." In Klusch, M., Shehory, O., and Weiss, G., editors, *Cooperative Information Agents III, Lecture Notes in Artificial Intelligence*. Springer Verlag, 1999.

BOOK CHAPTERS

Deborah L. McGuinness, Vasco Furtado, Paulo Pinheiro da Silva, Li Ding, **Alyssa Glass**, and Cynthia Chang. "Explaining Semantic Web Applications." In Cardoso, J., and Lytras, M.D., editors, *Semantic Web Engineering in the Knowledge Society*, IRM Press, 2008.

WORKSHOP PAPERS Deborah L. McGuinness, **Alyssa Glass**, Michael Wolverton, and Paulo Pinheiro da Silva. "Explaining Task Processing in Cognitive Assistants that Learn." *Proceedings of AAAI 2007 Spring Symposium on Interaction Challenges for Intelligent Assistants*, Stanford, California, 2007.

Deborah L. McGuinness, **Alyssa Glass**, Michael Wolverton, and Paulo Pinheiro da Silva. "A Categorization of Explanation Questions for Task Processing Systems." *Proceedings of the 2007 Workshop on Explanation-aware Computing (ExaCt-2007)*, Vancouver, Canada, 2007.

Deborah L. McGuinness, Li Ding, **Alyssa Glass**, Cynthia Chang, Honglei Zeng, and Vasco Furtado. "Explanation Interfaces for the Semantic Web: Issues and Models." *Proceedings of the Workshop on Semantic Web User Interactions (SWUI'06)*, International Semantic Web Conference (ISWC'06), Athens, Georgia, 2006.

MAGAZINE ARTICLES Ed Chi, Adam Rosien, Gesara Supattanasiri, Ray Chiang, Celia Chow, Brinda Dalal, Amanda Williams, **Alyssa Glass**, and Steve Cousins. "The Bloodhound Project: Automating Discovery of Web Usability Issues." *IEEE Computer Special Issue on Web Intelligence*. IEEE, 2002.

TEACHING EXPERIENCE

SPRING 2008
STANFORD UNIVERSITY CS121: Introduction to Artificial Intelligence
Teaching Assistant for Jean-Claude Latombe

WINTER 2007
STANFORD UNIVERSITY CS121: Introduction to Artificial Intelligence
Teaching Assistant for Jean-Claude Latombe

FALL 1998
HARVARD UNIVERSITY CS182: Intelligent Machines
Teaching Fellow for Charles Elkan

1997 – 1998
HARVARD UNIVERSITY Social Analysis 10: Principles of Economics
Course Assistant for Martin Feldstein

1996 – 1997
HARVARD UNIVERSITY Social Analysis 10: Principles of Economics
Course Assistant for Martin Feldstein

SUMMER 1997
P.E.N. ADULT EDUCAT. Computer Literacy 1
Course Instructor

PROFESSIONAL ACTIVITIES

PROGRAM COMMITTEES Third International Provenance and Annotation Workshop (IPAW-2010)
Conference on Information and Knowledge Management (CIKM) 2007

REVIEWER ACM 2008 Human Factors in Computing Systems (*CHI-2008*)
AAAI 2007 Spring Symp. on Interaction Challenges for Art. Assistants
Twenty-First AAAI Conference on Artificial Intelligence (*AAAI-2007*)
Twentieth AAAI Conference on Artificial Intelligence (*AAAI-2006*)

- STANFORD COMMITTEES Computer Science Dept. Ph.D. Admissions Committee, 2007 – 2008
KSL Technical Report Series Manager, 2007 – Present
Logic Lunch Coordinator, 2006 – 2008, 2009 – Present
Computer Science Dept. new Ph.D. student assistant, 2006 – 2008
Women in Computer Science Mentor Coordinator, 2006 – 2007
- MEMBER Association for the Advancement of Artificial Intelligence (AAAI)
Association for Computing Machinery (ACM)
- OTHER Harvard Alumni Association undergraduate admissions interviewer

REFERENCES

Deborah L. McGuinness

Tetherless World Senior Constellation Professor
Department of Computer Science, Rensselaer Polytechnic Institute
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Michael Genesereth

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Barbara J. Grosz

Dean of the Radcliffe Institute & Higgins Professor of Natural Sciences
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