

Susan E. Fox

Curriculum Vitae

Mathematics/Computer Science Department
Macalester College
1600 Grand Avenue
Saint Paul, MN 55105
(651) 696-6553

Home:
135 Lexington Parkway North
St. Paul, MN 55104
(651) 222-2980

Degrees

PhD Computer Science, 1995, minor Cognitive Science 1993, Indiana University, Bloomington, Indiana.
Thesis: *Introspective Learning for Case-Based Planning*.
Advisor: David B. Leake.

MS Computer Science 1992, Indiana University, Bloomington, Indiana.

BA with high honors, Computer Science 1990, Oberlin College, Oberlin, Ohio.

Teaching Experience

Macalester College Associate Professor, Summer 2002 to present.

Intro to Scientific Programming, Fall 2007.

Computer Science I (Python, Media + Robotics), Spring 2007 – Spring 2008.

Computer Science I (Scheme), Fall 2002, Fall 2003 – Fall 2006.

Algorithm Design and Analysis, Spring 2004, Fall 2005, Spring 2007.

Theory of Computation, Spring 2004, Spring 2005, Spring 2006, Spring 2007.

Introduction to Artificial Intelligence, Fall 2002, Fall 2004, Fall 2006.

Principles of Compiler Design, Fall 2003, Fall 2007.

Bodies and Minds: AI Robotics, Spring 2008.

Senior Capstone Seminar Spring 2004 (team-taught with Stephen Ahearn).

Macalester College Assistant Professor, Fall 1995 to Spring 2002.

Introduction to Computing and Its Applications, Spring 1998, Fall 1998.

Computer Science I (Pascal), Fall 1995.

Computer Science I (Scheme), Fall 1996, Fall 1997 to Fall 1998, Fall 1999 to Fall 2001.

Computer Science II, Spring 1996, Spring 1997.

Principles of Programming Languages, Fall 2001.

Algorithm Design and Analysis, Spring 2002.

Theory of Computation, Spring 1996, Spring 1997, Spring 2000, Spring 2001.

Topics in Computer Science: Genetic Algorithms, Fall 1995.

Topics in Computer Science: Database Systems, Fall 1997, Spring 2000.

Principles of Compiler Design, Spring 1997, Fall 1999, Fall 2001.

Introduction to Artificial Intelligence, Fall 1996, Fall 1998, Fall 2000.

Senior Seminar: Case-Based Reasoning, Spring 1996.

Senior Seminar: “Natural” AI Methods, Spring 1998.

Senior Seminar: Machine Learning, Spring 2001.

Indiana University

Instructor Summers 1992-1994.

Associate instructor (TA) 1991-1995.

Honors

Upsilon Pi Epsilon, 1996.

Pi Mu Epsilon, 1995.

Summer Research Fellowship, College of Arts and Sciences, Indiana University, Summer 1995.

Lieber Associate Instructor Award, Indiana University’s top distinguished teaching award for graduate students, 1995.

Sigma Xi, 1990.

Grants

NSF Scholarships for STEM , co-PI, submitted November 2007.

NSF CCLI grant faculty participant , grant on modules to teach AI with machine learning, 2007.

NSF Broadening Participation in Computing , co-PI, submitted to NSF spring 2007.

Keck Summer Stipend Grant, awarded to support Emery Mizero and Sean Cooke in summer research in the Robotics Laboratory, Summer 2008.

OREL Summer Stipend Grant, awarded to support Stiliyana Stamenova in summer research in the Robotics Laboratory, Summer 2007.

OREL Summer Stipend Grant, awarded to support Shathel Haddad in summer research in the Robotics Laboratory, Summer 2006.

Keck Summer Stipend Grant, awarded to support Paul Norman in summer research in the Robotics Laboratory, Summer 2006.

Keck Summer Stipend Grant, awarded to support Peter Anderson-Sprecher in summer research with me using the Robotics Laboratory, Summer 2005.

Hughes Summer Research Grant, awarded to support Ramaldo Martin in summer research with me, Summer 2002.

Keck Summer Stipend Grant, awarded to support Alon Rohter in summer research with me using the Robotics Laboratory, Summer 2001.

Hughes Summer Research Grant, awarded to support Martin Lacayo-Emery in summer research with me, Summer 2001.

Keck Summer Stipend Grant, awarded to support two students, David Christian and Alex Burst, in summer research with me using the Robotics Laboratory, Summer 2000.

NSF CCLI Grant, “Robots for Teaching about Autonomous Agents,” received, July 1999.

Bush Foundation-Funded Teaching Development Stipend, awarded through Macalester College, to re-design introductory computer science course, Summer 1996.

Reviewed Publications

- Introductory AI for both Computer Science and Neuroscience Students. *Proceedings of the 20th International FLAIRS Conference* (Florida Artificial Intelligence Research Society), special track on AI Education. AAAI Press, Menlo Park, CA. At Key West, Florida, May 2007, **Awarded “Best Paper” for overall conference.**
- Robot Navigation Using Integrated Retrieval of Behaviors and Routes, with Peter Anderson-Sprecher. *Proceedings of the 19th International FLAIRS Conference* (Florida Artificial Intelligence Research Society), AAAI Press, Menlo Park, CA. Presented at Melbourne Beach, Florida, May 2006. **Publication with student.**
- Behavior Retrieval for Robot Control in a Unified CBR Hybrid Planner, *Proceedings of the 14th International FLAIRS Conference* (Florida Artificial Intelligence Research Society), pp. 98-102, AAAI Press, Menlo Park, CA. At Key West, Florida, May 2001.
- Introspective Reasoning for Index Refinement in Case-Based Reasoning, with D. Leake. *Journal of Experimental and Theoretical Artificial Intelligence*, Volume 13, pp. 63-88, Taylor and Francis, 2001.
- A Unified CBR Architecture for Robot Navigation, *Advances in Case-Based Reasoning, Lecture Notes in Artificial Intelligence 1898*, Springer-Verlag; the proceedings of the Fifth European Workshop on Case Based Reasoning, Trento, Italy, September 2000.
- Reflective Introspective Reasoning Through CBR, *Proceedings of the Twenty Second Annual Meeting of the Cognitive Science Society*, Lawrence Erlbaum Associates, Philadelphia, PA, August 2000.
- A New Model of Reflective Introspective Learning, *The 11th International FLAIRS Conference* (Florida Artificial Intelligence Research Society), AAAI Press, May 1998. At Sanibel Island, Florida, May 1998.
- Introspective Learning for Case-Based Planning*. PhD Thesis, available as TR462 from the Indiana University Computer Science Technical Report Library, 1995.
- Learning to refine indexing by introspective reasoning, with D. Leake. *Case-Based Reasoning Research and Development*, Springer-Verlag; the proceedings of the First International Conference on Case-Based Reasoning, Sesimbra, Portugal, October 1995.
- Using Introspective Reasoning to Refine Indexing, with D. Leake. *Proceedings of the 14th International Joint Conference on Artificial Intelligence*, Morgan Kaufmann Publishers, 1995.
- Using Introspective Reasoning to Guide Index Refinement in Case-based Reasoning, with D. Leake. *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society*. Lawrence Erlbaum Associates, 1994.
- Introspective Reasoning in a Case-based Planner, with D. Leake. *Proceedings of the Twelfth National Conference on Artificial Intelligence*. (Research Abstract). AAAI Press/MIT Press, 1994.

Non-Refereed Research Articles

- Finding the “Right” Robot Competition: Targeting Non-Engineering Undergraduates. *Proceedings of the 2007 AAAI Spring Symposium on Robots and Robot Venues: Resources for AI Education*. AAAI Press, Stanford, CA, March 2007.
- Using Robotics to Introduce AI to a Wider Audience. *Proceedings of the 2004 AAAI Spring Symposium on Accessible, Hands-on AI and Robotics Education*. AAAI press, Stanford, CA, March 2004.
- Combining Case-based Planning and Introspective Reasoning, with D. Leake. *Proceedings of the Sixth Midwest Artificial Intelligence and Cognitive Science Society Conference*. Carbondale, IL, April 1995.
- Modeling Case-based Planning for Repairing Reasoning Failures, with D. Leake. *Proceedings of the 1995 AAAI Spring Symposium on Representing Mental States and Mechanisms*. AAAI, Stanford, CA, March 1995.

Other Publications

Instructor's Manual and Test Bank to accompany Modern Software Development in Java: A Text for the Second Course in Computer Science by Tymann and Schneider, Brooks-Cole Publishing.

Sidebar article on "Case-Based Reasoning," part of a chapter on "Artificial Intelligence" in Van Nostrand's Scientific Encyclopedia, ninth printing, John Wiley and Sons.

Web materials for student and instructor support for *Java: A Framework for Program Design and Data Structures*, Lambert and Osborne, Brooks/Cole Publishing.

Instructor's Manual and Test Bank to Accompany Schneider and Gersting's An Invitation to Computer Science, Java Edition, PWS Publishing.

Instructor's Manual and Test Bank to Accompany Schneider and Gersting's An Invitation to Computer Science, Second Edition, PWS Publishing.

Invited seminars

A Career in Human and Robot Learning, to Advancement at Macalester College, Spring 2007.

Is it Really Research if We're Playing with Toys, Macalester College "Food for Thought" series, Fall 2006.

Robot Navigation: Combining Behaviors and Routes, Oberlin College, April 27, 2006.

Case-based Reasoning for Robot Control, Gustavus Adolphus College, March, 2001.

Case-based Reasoning for Robot Control, Carleton College, October 12, 2000.

An Introduction to Introspective Learning, Gustavus Adolphus College, October 22nd, 1996.

Forum on Teaching Artificial Intelligence, Seventh Annual Midwest Artificial Intelligence and Cognitive Science Conference, Bloomington, Indiana, April 26-28th, 1996.

Macalester Service

Chair, search committee for Computer Science faculty position, 2007 to **present**.

Member of search committee for Applied Math position, 2006-2007.

Computer Science coordinator, Math/CS Department Spring 2005 to **present**.

WHAM Committee, Fall 2003 to **present**.

Resource Planning Committee, Fall 2007 to **present**.

Representative from RPC to the Social Responsibility Committee, Fall 2007 to **present**.

Member, steering committee for Cognitive and Neuroscience Studies, Spring 1999 to **present**. Participated in preparations and activities for external review.

Faculty advisor, Upsilon Pi Epsilon, new charter, 1996 to **present**.

Faculty advisor, student chapter of the ACM, Macalester College, 1995 to **present**.

Coach, student programming contest teams, Macalester College, 1995 to **present**.

Co-chair, Macalester Employee Giving (United Funds) campaign, 2004 and 2005.

Resource Planning Committee, Fall 2002 to Spring 2005.

Secretary of the Faculty, Macalester College 2000-2001.

Member, Faculty Professional Activities Committee, 1996-1997.

Professional Service

Program committee member, FLAIRS 2007 and FLAIRS 2008 general conference.

Program committee member, FLAIRS special track on Artificial Intelligence Education, from 2005 to 2008.

Reviewer for IEEE Transactions in Education journal, 2002 to **present**.

Reviewer, *AI Magazine*, Fall 1998 to **present**.

Honors examiner, Oberlin College Computer Science Program, Spring 2006.

Reviewer, the National Science Foundation's Course, Curriculum, and Lab Improvement program, Washington DC, July 2000, and February 2004.

Program committee, First International Conference on Information Reuse and Integration (IRI-99), 1999.

Head judge and coordinator, ACM North Central Regional Programming Contest, Macalester Satellite Site, Fall 1998, Fall 1999, and Fall 2004.

Professional Affiliations

Upsilon Pi Epsilon

Pi Mu Epsilon.

Cognitive Science Society.

American Association for Artificial Intelligence.

Association for Computing Machinery, including the Special Interest Group on Artificial Intelligence and the Special Interest Group on Computer Science Education.

Sigma Xi.

April, 2008