

Alan R. Wagner

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Educational Background

Degree	Year	University	Field
Ph.D.	2009 (expected)	Georgia Institute of Technology	Computer Science
M.S.	2001	Boston University	Computer Science
B.A.	1996	Northwestern University	Psychology

Employment History

Title	Organization	Description of Duties	Location	Dates
Research Assistant	Georgia Institute of Technology Mobile Robot Lab	Research and development on several naval and DoD funded projects.	Atlanta, GA	2002-Present
Naval Research Laboratory	Department of the Navy	Research intern working on robot auditory system.	Washington D.C.	2008
Software Engineer	Symantec	Development of software for firewall applications	Waltham, MA	2000-2002
Software Engineer	Speedline Technologies	Development of software for industrial robotic platforms	Franklin, MA	1999-2000
Research & Development Engineer	MIT/Whitehead Institute for Biomedical Research	Construction of robotic platforms for DNA sequencing as part of the Human Genome Project	Cambridge, MA	1998-1999

Research Interests

My research falls under the rubric of Human-Robot Interaction (HRI). I focus on problems involving relationship development, interactive partner modeling, and trust. I explore these problems from the perspective of the robot, developing computational representations, algorithms, and software to allow a robot to better interact with a human. My work is inherently interdisciplinary, drawing from research in game theory, neuroscience, and social psychology. I hope that the fruits of this research will positively influence both robotics and those that are to use robots in their lives.

I. Research and Creative Scholarship

A. Ph.D. Thesis Proposal

- [S.1] **The Role of Trust and Relationships in Human-Robot Social Interaction**, Alan R. Wagner, Ph D. Thesis Proposal, College of Computing, Georgia Institute of Technology, Sept. 2007, Advisor: Ronald C. Arkin.

B. Published Journal Articles

- [J.1] **Analyzing Social Situations for Human-Robot Interaction**, Wagner, Alan R., and Ronald C. Arkin, *Interaction Studies*, 10(2), 2008.

C. Conference Presentations with Proceedings (refereed)

- [C.1] **Internalized Plans for Communication-Sensitive Robot Team Behaviors**, Wagner, Alan R., and Ronald C. Arkin, Proceedings of IEEE International Conference on Intelligent Robots and Systems (IROS 2003). Los Vegas, NV, USA, Oct. 2003.
- [C.2] **Multi-Robot Communication-Sensitive Reconnaissance**, Wagner, Alan R., and Ronald C. Arkin, Proceedings of IEEE International Conference on Robotics and Automation (ICRA 2004). New Orleans, LA, USA, Apr. 2004.
- [C.3] **A Framework for Situation-based Social Interaction**, Wagner, Alan R., and Ronald C. Arkin, Proceedings of the 15th International Symposium on Robot and Human Interactive Communication (RO-MAN 2006). Hatfield, United Kingdom, Sept. 2006. **Won best paper award.**
- [C.4] **Multi-Robot User Interface Modeling**, Wagner, Alan R., Yoichiro Endo, Patrick Ulam, Ronald C. Arkin, In *Distributed Autonomous Robotics Systems 7*. M. Gini and R. Voyles (eds.). Tokyo, Japan, Springer-Verlag, 2006.
- [C.5] **Integrated Mission Specification and Task Allocation for Robot Teams - Design and Implementation**, Ulam, Patrick, Yoichiro Endo, Alan R. Wagner, Ronald C. Arkin, Proceedings of IEEE International Conference on Robotics and Automation (ICRA 2007). Rome, Italy, Apr. 2007.
- [C.6] **Creating and Using Matrix Representations of Social Interaction**, Wagner, Alan, Proceedings of IEEE the 4th International Conference on Human-Robot Interaction (HRI 2009). San Diego, CA, Mar. 2009.

D. Technical Reports (non-refereed)

- [TR.1] **Integrated Mission Specification and Task Allocation for Robot Teams - Part 2: Testing and Evaluation**, Ulam, Patrick, Yoichiro Endo, Alan R. Wagner, Ronald C. Arkin, technical report GIT-GVU-07-02, College of Computing, Georgia Institute of Technology, 2007.

E. Workshops (refereed)

- [W.1] **A Representation for Interaction**, Wagner, Alan R., Proceedings of the ICRA 2008 Workshop: Social Interaction with Intelligent Indoor Robots (SI3R). Pasadena, CA, USA. May 2008.
- [W.2] **Operator Responsibility and Lethality in Autonomous Combat Robotic Systems**, Arkin, Ronald C., Alan R. Wagner, Brittany Duncan, Proceedings of the ICRA 2009 Workshop on RoboEthics, May 17, 2009, Kobe, Japan.

F. Abstracts (refereed)

- [A.1] **A Preliminary System for Recognizing Boredom**, Jacobs, Allison M., Benjamin Fransen, J. Malcolm McCurry, Fredrick W.P. Heckel, Alan R. Wagner, J. Gregory Trafton, HRI 2009 Late-Breaking Abstracts. San Diego, CA, USA. March 2009.

G. Research Project Experience

1. NAVAIR/Lockheed-Martin Intelligent Autonomy (IA) Project (2006 -2008)
 - Integrated MissionLab (multi-robot mission specification software package) into Lockheed-Martin's ICARUS (multi-robot mission control) framework.
 - Attended PI meetings, presented results, managed several graduate students.
2. ONR AO-FNC Project (2005 – 2006)
 - Developed integrated CBR (case-based reasoning) and CNP (contract net protocol) for the coordination of teams of heterogeneous robots.
 - Resulted in two published papers [C4, C5].
3. DARPA Mobile Robot Autonomous Robot Software 2020 Project (2002-2004)
 - Developed communication sensitive multi-robot reconnaissance planning and control algorithms.
 - Field tested the system at Fort Benning, Georgia.
 - Resulted in two publications [C1, C2].

H. Research Proposals and Grants

2009 HRI Pioneers Workshop

Sponsor: National Science Foundation

Amount: \$24,950

PI: Henrik Christensen (co-authored grant proposal)

Submitted: Fall 2009. Funded: Fall 2009.

II. Teaching

A. Courses Taught

Semester	Course	Enrollment	Comments
Georgia Institute of Technology			
Fall 2008	CS 7630 <i>Autonomous Robotics</i>	17	Teaching assistant at Korea University in Seoul, South Korea
Spring 2007	CS 7630 <i>Autonomous Robotics</i>	23	Guest lecture
Spring 2007	CS 4002 <i>Robots and Society</i>	25	Guest lecture
Boston University			
Spring 2001	CS 341 <i>Data structures with C++</i>	34	Sole instructor
Fall 2000	CS 341 <i>Data structures with C++</i>	31	Sole instructor

B. Individual Student Guidance

Undergraduate Individual Projects

1. Brittany Duncan, Computer Science, Georgia Institute of Technology.

Fall 2007. Individual project during Fall of 2007.

Undergraduate Group Projects

1. Brittany Duncan and Sweta Vajjhala, Computer Science, Georgia Institute of Technology. Fall 2006-present.
Research: During the 2006-07 school year completed a research project entitled "Actor Scripts for Human-Robot Relationship Evaluation" as part of the Intel Opportunities Program.
Award: Second place 2007 Intel Opportunities Scholar Symposium, 2008 People's Choice Award; Third place 2008 Intel Opportunities Scholar Symposium

III. Service

A. Professional Memberships

1. Member, Institute of Electrical and Electronics Engineers (IEEE).
2. Member, American Association for Artificial Intelligence (AAAI).
3. Member, Association of Computing Machinery (ACM).

B. Conference Committee Activities

1. Co-Chair, HRI Young Researcher's Workshop, 2008.
2. Chair, HRI Young Researcher's Workshop, 2009.

C. On-Campus Activities

1. Ph D. Admissions Chair, College of Computing Graduate student council.
2. Member of Georgia Institute of Technology Robocup team, 2002-2004.

D. Reviewer

1. 4th ACM/IEEE International Conference on Human Robot Interaction (2009).
2. Interaction Studies—Social Behavior and Communication in Biological and Artificial Systems (2009).

IV. Recognition

A. Awards

1. Georgia Institute of Technology President's Fellowship (2002-2007).
2. College of Computing Dean's Fellowship (2002-2006).
3. Intel Opportunities Mentor Scholarship (2006-2008).
4. RO-MAN 2007 Best paper award.

B. Honor Societies

1. Upsilon Pi Epsilon International Honor Society.

V. Other Contributions

A. Invited Talks

1. Texas A&M, Invited Speaker, College Station, TX January 2009.

VI. Personal

A. Skills

- Programming: C, C++, C#, Java, JavaScript, HTML, XML, Pascal, Basic, Visual Basic

B. Biographical

Born: January 19, 1975, Cleveland Ohio

Citizenship: United States

Hobbies:

- Hiked to 35 state highpoints
- Skydiving
- Skiing

References:

- Available upon request