

Geoffrey A. Hollinger

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Education

Carnegie Mellon University

Pittsburgh, PA

- Ph.D., Robotics, Expected 2011
- M.S., Robotics, 2007
- GPA 4.0

Swarthmore College

Swarthmore, PA

- B.S., General Engineering, 2005
- B.A., Philosophy, 2005
- High Honors, GPA in Engineering 3.97, Overall GPA 3.8

Allen D. Nease High School

St. Augustine, FL

- International Baccalaureate Diploma, 2001
- Salutatorian, GPA 4.0

Research Experience

Research Assistant

Fall 2005 - Present

- Carnegie Mellon University

Pittsburgh, PA

- Currently working with Dr. Sanjiv Singh in the Field Robotics Center on multi-robot coordination for firefighter assistance. Research focuses on tracking using range-only sensors and coordinated search in dynamic, uncertain environments.

Visiting Scholar

Summer 2006

- University of Pennsylvania

Philadelphia, PA

- Worked with Dr. Vijay Kumar in the General Robotics, Automation, Sensing and Perception (GRASP) laboratory on the SWARMS project for multi-robot manipulation and distributed control.
- Presented a demo of my research at the 2006 Robotics Science and Systems Conference.

Research Intern

Summer 2004, Summer 2005

- NASA Marshall Space Flight Center

Huntsville, AL

- Worked with NASA engineers to design a pipe inspection robot for the space shuttle.
- Specialized in computer simulation and evolutionary design of fault-tolerant analog control for a piezoelectric prototype robot.

Research Assistant

Summer 2003

- Swarthmore College

Swarthmore, PA

- Performed independent research under the supervision of Dr. Bruce Maxwell in the field of computer vision specializing in image segmentation and object recognition.

Skills

- Programming: C, C++, Java, HTML, VHDL, Matlab
- Languages: English (native), Spanish (conversational)

Awards

- Honorable Mention for NSF Graduate Research Fellowship Program 2006
- Finalist for Hertz Foundation Fellowship Award 2005 and 2006
- High Honors in Engineering and Philosophy at Swarthmore College 2005
- Purdue Award for Undergraduate Engineering Excellence 2004
- District Champion IEEE Micromouse Robotics Team 2002

Service and Affiliations

- Reviewer: International Conference on Robotics and Automation, Journal of Field Robotics
- Swarthmore College Chapter Vice-President of Tau Beta Pi Engineering Honors Society
- Secretary of Swarthmore College IEEE Student Chapter
- Member of Sigma Xi Scientific Research Honors Society
- Vice-President of the Swarthmore College Debate Society

Recent Publications

1. G. Hollinger, J. Djughash, and S. Singh. "Tracking a Moving Target in Cluttered Environments with Ranging Radios." ICRA Conference Proceedings, Spring 2008. To Appear.
2. G. Hollinger, J. Djughash, and S. Singh. "Coordinated Search in Cluttered Environments Using Range from Multiple Robots." FSR Conference Proceedings, Summer 2007.
3. G. Hollinger, A. Kehagias, and S. Singh. "Probabilistic Strategies for Pursuit in Cluttered Environments with Multiple Robots." ICRA Conference Proceedings, Spring 2007.
4. G. Hollinger, Y. Georgiev, A. Manfredi, B. Maxwell, Z. Pezzementi, and B. Mitchell. "Design of a Social Mobile Robot Using Emotion-Based Decision Mechanisms." IROS Conference Proceedings, Fall 2006.
5. G. Hollinger and D. Gwaltney. "Evolutionary Design of Fault-Tolerant Analog Control for a Piezoelectric Pipe-Crawling Robot." GECCO Conference Proceedings, Summer 2006.
6. E. Liao, G. Hollinger, J. Djughash, and S. Singh. "Preliminary Results in Tracking Mobile Targets Using Range Sensors from Multiple Robots." DARS Conference Proceedings, Summer 2006.
7. G. Hollinger and J. Briscoe. "Genetic Optimization and Simulation of a Piezoelectric Pipe-Crawling Robot." ICRA Conference Proceedings, Spring 2005.
8. G. Hollinger, Z. Pezzementi, A. Flurie, and B. Maxwell. "Design and Construction of an Indoor Robotic Blimp for Urban Search and Rescue Tasks." Swarthmore College Senior Design Thesis, Spring 2005.