



2007 AAAI Spring Symposium Robots and Robot Venues: Resources for AI Education

Welcome to the home page for the Spring 2007 AAAI symposium on robots in AI and CS education!

Sponsors

We gratefully acknowledge the support of the Surveyor Corporation, Road Narrows Robotics, and K-Team for this AAAI Spring Symposium. Representatives from Road Narrows and Surveyor will present some of their platforms during a session before Tuesday's sponsored lunch.



Links and Information

Note for poster presenters The AAAI will be supplying easels and foam backing board that have dimensions 30 inches by 40 inches. You'll also have a 3-minute "teaser" slot to preview your poster to the group. We'll gather ~2 ppt slides (optional) from each presenter into a single, continuous presentation.

Note for paper presenters We're slating ~12 minutes for each talk, with ~3 minutes for a question or two as the next talk sets up... creative time-keeping ideas that will keep us on track are welcome!

AAAI Spring Symposium Page (registration and travel information)

The 2006 AI Magazine 27(1) and 2004 AAAI spring symposium page

Symposium Schedule and Sessions

Monday, March 26, 2007	
9:00	Welcome and Introduction symposium cochairs
Robots in the AI Curriculum: Examples and Issues chair: Doug Blank	
9:15-10:30 (~15 minute talks)	An Undergraduate Course in Robotics and Machine Intelligence Benjoe Juliano and Renee Renner
	Undergraduate Capstone Projects on Multi-Robot Systems Chris Kitts
	Advanced robotics projects for undergraduate students Doug Blank, Deepak Kumar, Jim Marshall, and Lisa Meeden
	Using the AIBOs in a CS 1 course John Chilton and Maria Gini
	Robotics across the curriculum Betsy Sklar, Simon Parsons, and M Q Azhar

10:30-11:00 (coffee!)	break
11:00-12:30 (talk/break-out)	<p>Real Robots Don't Drive Straight Fred Martin</p> <p>Break-out discussion: <i>10 things NOT to do when incorporating robots into an assignment, course, or curriculum -- and how to avoid them!</i></p> <p>We will ask for discussion leaders to help structure this session and report back to the group.</p>
12:30-2:00	Lunch
<p>Emerging robotic platforms for education chair: Zach Dodds</p>	
2:00-3:30 (~15 minute talks)	<p>A Pragmatic Global Vision System for Educational Robotics John Anderson and Jacky Baltes</p> <p>Demonstrating the Capabilities of MindStorms NXT for the AI Curriculum Frank Klassner and Myles McNally</p> <p>Educational Haptics David Grow, Lawton N. Verner, and Allison Okamura</p> <p>Roomba Pac-Man: Teaching Autonomous Robotics through Embodied Gaming Chad Jenkins and Brendan Dickinson</p> <p>Leveraging the Nanogram League RoboCup Competition in the Undergraduate Classroom Jenelle Piepmeier and Samara Firebaugh</p> <p>TeRK: A Flexible Tool for Science and Technology Education Illah Nourbakhsh, Emily Hamner, Tom Lauwers, Carl DiSalvo, and Debra Bernstein</p>
3:30-4:00 (coffee!)	break
4:00-4:30 (3 minute teasers)	<p>Robotics Education using Embedded Systems and Simulations Thomas Brauml</p> <p>Getting Down and Dirty: Incorporating Homogeneous Transformations and Robot Kinematics into a Computer Science Robotics Class Jennie Kay</p> <p>RoadNarrows Presents General Purpose Brain-Packs, Controller Boards, and Robots for Education and Research Kim Wheeler</p> <p>Low-cost On-board Linux, Vision, Wi-Fi, and more for the Roomba Robotics Base Tod E. Kurt</p> <p>Integrating Low-Cost Robot Devices into Pyro Tim Fossum and James Snow</p> <p>Map-Making with a Four-Legged Mobile Robot Kurt Krebsbach and Benjamin Willard</p> <p>Introducing the Blackfin Handyboard Fred Martin and Andrew Chanler</p>

	<p>Envisioning the Roomba as AI Resource: A Classroom and Laboratory Evaluation Ben Tribelhorn and Zach Dodds</p> <p>A Robotics Introduction to Computer Science Deb Burhans</p> <p>Concurrency, Robotics, and RoboDeb Christian Jacobsen and Matt Jadud</p>
4:30-5:30	Demonstrations, exhibitions, and/or posters by the authors in this session and today's talks.
5:30-6:00	break
6:00-7:00	AAAI reception for all nine spring symposia
Tuesday, March 27, 2007	
Leveraging Robot Competitions and Exhibitions	
chair: Jerry Weinberg	
9:00-10:30 (~15 minute talks)	<p>Beyond Botball David P. Miller, Charles Winton, and Jerry Weinberg</p> <p>Extra-curricular Robotics: Entry-level Soccer for Undergraduates Susan Imberman, Aleksandr Barkan, Elizabeth Sklar</p> <p>Designing Robot Competitions That Promote AI Solutions: Lessons Learned Competing and Designing Jeffrey R. Croxell, Ross Mead, and Jerry Weinberg</p> <p>Finding the "Right" Robot Competition: Targeting Non-Engineering Undergraduates Susan Fox</p> <p>Mini Grand Challenge Contest for Robot Education Bob Avanzato</p>
10:30-11:00 (coffee!)	break
11:00-12:15	<p>Aerial Robotics Competition: Lessons in Autonomy Paul Oh, Keith Sevcik, and William Green</p> <p>Panel discussion: <i>What features (do/would) make robot competitions & exhibitions compelling, accessible, and curricularly relevant?</i></p> <p>We will ask for panelists/discussion leaders to help structure this session.</p>
12:15-12:30	<p>Sponsors' Session:</p> <p>The Surveyor SRV-1, Howard Gordon, the Surveyor Corporation Road Narrows Robotics, Kim Wheeler, Chief Executive Officer</p>
12:30-2:00 (Mmmm)	Lunch, sponsored by Road Narrows Robotics and the Surveyor Corporation.
Building community via robotics: within CS, across disciplines, and broader outreach	
chair: Holly Yanco	

2:00-3:30 (~15 minute talks)	<p>Materials for enabling hands-on robotics and STEM education Maja J Mataric, Nathan Koenig, and David Feil-Seifer</p> <p>Robotics Education in Emerging Technology Regions M. Bernardine Dias, Brett Browning, G. Ayorkor Mills-Tettey, and Nathan Amanquah</p> <p>Educating Teacher Students and Pupils Through Robotics Courses and Olympiads: A Tiered Approach Igor Verner and Evgeny Korchnoi</p> <p>Robotics Olympiads: A New Means to Facilitate Conceptualization of Knowledge Acquired in Robot Projects Igor Verner, David J. Ahlgren, and David P. Miller</p> <p>Integrating Service Learning with Undergraduate Robotics Research Renee Renner and Benjoe Juliano</p> <p>Robotics in Early Undergraduate Education David L. Duke, Justin Carlson and Chuck Thorpe</p> <p>Artbotics: Combining Art and Robotics to Broaden Participation in Computing Holly A. Yanco, Hyun Ju Kim, Fred G. Martin, and Linda Silka</p>
3:30-4:00 (coffee!)	break
4:00-4:30 (3 minute teasers)	<p>Eclectic robotics for a mixed audience Jeanine Meyer and Rona Gurkewitz</p> <p>Robots in Education: Student Perspectives from the Classroom and from the Field Colleen van Lent, Adder Argueta, Russel Casella, Nate Jahns</p> <p>Enhance Students' Hands-On Experience With Robotics Daisy Tang</p> <p>Remote Shared Access To A Classroom Robotics Lab William Harris and David Arnow</p> <p>Teleworkbench: A Remotely-Accessible Robotic Laboratory for Education Andry Tanoto and Ulf Witkowski</p> <p>Robotics Tools in Neuroscience Education Jill Rogers, Anthony Lewis, and Liudmila Yafremava</p> <p>Robots can Wear Multiple Hats in the Computer Science Curriculum at Liberal Arts Colleges Christine Shannon</p> <p>Robots in an Interdisciplinary Course in the Liberal Arts Ellen Walker and Lee Braver</p> <p>Student Feedback on Robotics in CS1 Susan P. Imberman, Roberta Klibaner, and Sarah Zelikovitz</p> <p>Using Robotic Competitions in Undergraduate Philosophy Courses: Studying the Mind Through Simple Robotics John P. Sullins III</p>
4:30-5:30	Demonstrations, exhibitions, and/or posters by the authors in this session and today's talks.
5:30-6:00	break

6:00-7:30	Plenary session for all nine symposia. Our speaker: David Miller
Wednesday, March 28, 2007	
Hands-on session: The "one-hour" robot competition/exhibition chair: symposium cochairs	
9:00	Introduction and "Rules"
9:15-11:00 (go!)	Teams of ~3 participants work on their robots...
11:00-12:00	Teams run their robots, explaining as they go... .
12:00-12:30	Final summary and wrap-up symposium cochairs

In case it's of use, we will keep previous information available here.
Information in the schedule above supersedes these... .

Call for papers [somber pdf version](#) [two-sided pdf version](#) [two-sided ppt version](#)

This 2007 AAAI spring symposium will bring together hardware, software, and curriculum designers for autonomous educational robotics, along with interested educators and robot contest and exhibition organizers.

This group of ~50 will investigate and articulate how educators, especially undergraduate educators, can leverage autonomous robots and robot-themed venues as educational experiences.

We encourage you to submit emerging projects, curricular trials, research-to-classroom bridges, robot exhibition & competition experiences, and other work using robots for undergraduate AI and CS.

Submissions should be between 2-6 pages in length. Accepted submissions will need to adhere to [AAAI style](#), but initial submissions need not.

Email your submission (pdf, word, or other common format) to dodds@cs.hmc.edu.
Feel free to direct questions or concerns to any of the organizers.

Details:

- **Dates:** March 26-28, 2007
- **Venue:** Stanford University
- **Submission Deadline:** October 6, 2006
- **Organizers:**
 - Doug Blank, Bryn Mawr College, [dblank at brynmawr.edu](mailto:dblank@brynmawr.edu)
 - Holly Yanco, U Mass Lowell, [holly at cs.uml.edu](mailto:holly@cs.uml.edu)
 - Zach Dodds, Harvey Mudd College, [dodds at cs.hmc.edu](mailto:dodds@cs.hmc.edu)
 - Jerry Weinberg, SIU Edwardsville, [jweinbe at siue.edu](mailto:jweinbe@siue.edu)
 - Paul Rybski, Carnegie Mellon U, [prybski at cs.cmu.edu](mailto:prybski@cs.cmu.edu)

Tentative Schedule

- **Mon., 3/26/07 am:** Platforms, Software, and Curriculum I
- **Mon., 3/26/07 pm:** Platforms, Software, and Curriculum II
- **Tue., 3/27/07 am:** Leveraging Robot Venues I
- **Tue., 3/27/07 pm:** Leveraging Robot Venues II
- **Wed., 3/28/07 am:** Hands-on robot exhibition for all participants

Additional Information and Links

- [Final draft submission instructions and To-do list \(email from Carol Hamilton\)](#)
- [The original symposium description and proposal to AAAI](#)
- [Ongoing thoughts on the hands-on robot exhibition/competition on Wed. 3/28/07](#)
- [The list of symposium deadlines \(email from Carol Hamilton\)](#)
- [A draft of the symposium summary for AAAI's flyer](#)

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