Microsoft Partners With College of Computing at Georgia Tech and Bryn Mawr College to Form Institute for Personal Robots in Education

Joint industry and academic partnership to apply robotics technology to undergraduate computer science education.

REDMOND, Wash. — July 12, 2006 — In a move designed to boost enrollment and retention in college computer science classes, Microsoft Corp. today announced the creation of the Institute for Personal Robots in Education (IPRE) in partnership with the College of Computing at Georgia Tech and Bryn Mawr College. The institute is designed to reinvigorate computer science curriculum by delivering robotics technology tailored for teaching purposes, scientifically evaluated for its effectiveness in live teaching situations. The resulting materials will be made available widely to the academic community.

Under the alliance, Microsoft will provide the College of Computing at Georgia Tech with $1 million (U.S.) paid over three years to develop — as part of the IPRE — practical new ways to bring robotics technology into the computer science curriculum. Matching Microsoft's support, an additional $1 million for the institute will be provided by the College of Computing at Georgia Tech and Bryn Mawr College.

Related Links

Feature Stories:

- Q&A: Robots in the Computer Science Classroom – July 12, 2006

Microsoft Resources:

- Microsoft Robotics Studio Web site
- Microsoft Research Web site

External Resources:

- The Institute for Personal Robotics in Education Web site
- Bryn Mawr College Web site
- College of Computing at Georgia Tech Web site

"We want to use the power of robotics to capture the imagination of tomorrow's computer scientists," said Craig Mundie, chief research and strategy officer at Microsoft. "By introducing exciting new technologies into the computer-science curriculum, we believe that we'll greatly increase its appeal — especially to students who may not have considered majoring in this field."

Today's announcement comes less than a month after Microsoft released a community technology preview (CTP) of its new Microsoft® Robotics Studio (http://msdn.microsoft.com/robotics), a Windows®-based software environment offering a common development platform that makes it easier for innovators to create robotic applications for a wide variety of platforms. The Institute for Personal Robots in Education will use the Microsoft Robotics Studio as a core technology.

Robotics: The Excitement and the Challenge

Robotics is showing up in increasingly varied walks of life, from industrial manufacturing and home appliances to healthcare for the elderly, toys and entertainment — even in toxic and dangerous search-and-rescue scenarios. Yet many computer science students' studies in robotics are hampered by devices that are difficult to use or not rugged

enough; devices that are suitable for classroom use are too often prohibitively expensive. To more fully realize the potential of robotics in computer science, classroom robots need to be made more accessible, affordable and easy to use for both students and professors.

"The time is right to transform computer science education, and creativity and contextualization are the key drivers," said Richard A. DeMillo, dean of the College of Computing at Georgia Tech. "We are committed to expanding the horizons of our students by incorporating cutting-edge and engaging courses — such as robotics — as core components of the curriculum. This effort, led by associate professor Tucker Balch, serves as yet another unconventional approach to education at the College of Computing at Georgia Tech."

Georgia Tech and Bryn Mawr College were among eight leading U.S. schools with strong track records in educational robotics invited by Microsoft to participate in a request for proposals for the partnership. Although all the candidates were strong contenders, Georgia Tech and Bryn Mawr stood out for their combined excellence in robotics and curriculum innovation. A tenet of their proposal is that every student should have his or her own personal robot. These small, mobile robots — to be made available at the university bookstore shrink-wrapped with a textbook — will be inexpensive and dependable, and will take full advantage of the student's desktop computer for developing, debugging and running programs that control the robot.

Robotics for Today's Computer Science Classroom

The College of Computing at Georgia Tech's curriculum development plan also includes use of a new version of Pyro, a leading educational robotics software platform, integrated with the new Microsoft Robotics Studio. This approach is expected to significantly reduce the cost of learning to program robots and make robotics more accessible to students because it has been adapted to both simulation platforms and real mobile robots.

"Bryn Mawr's involvement in this partnership introduces the ideas and problems in artificial intelligence (AI) and robotics to a very different set of students from the traditional engineering types that have worked on those problems over the past 50 years," said Deepak Kumar, chair of the department of Computing at Bryn Mawr. "As a result, I think we will see some very different and amazing solutions to these kinds of problems."

The Institute for Personal Robots in Education will begin developing its technology and education immediately, with educational programs beginning in January 2007. More information about the institute can be found at http://www.roboteducation.org.

Microsoft understands that education is at the heart of technological innovation and seeks to fund research and curriculum development in leading academic institutions worldwide.

Today's announcement reflects Microsoft's ongoing commitment to partnering with academia in developing new and advanced technologies. The IPRE joins four other institutes formed in collaboration with Microsoft Research.

About the College of Computing at Georgia Tech

The College of Computing at Georgia Tech is a national leader in the creation of real-world computing breakthroughs that drive social and scientific progress. With its graduate program ranked 11th nationally by U.S. News and World Report, the College's unconventional approach to education is defining the new face of computing by expanding the horizons of traditional computer science students through interdisciplinary collaboration and a focus on human-centered solutions. For more information about the

College of Computing at Georgia Tech, its academic divisions and research centers, please visit www.cc.gatech.edu.

About Bryn Mawr

One of the oldest and most selective women's colleges in the United States, Bryn Mawr College was the nation's first school to offer women the opportunity to earn a Ph.D. and remains a leader in developing female scientists. The College ranks among the top 10 of colleges and universities in the country, and first among women's colleges, in the percentage of women undergraduates who go on to receive Ph.D.'s in the STEM (science, technology, engineering and mathematics) fields. www.brynmawr.edu.

About Microsoft Research

Founded in 1991, Microsoft Research is dedicated to conducting both basic and applied research in computer science and software engineering. Its goals are to enhance the user experience on computing devices, reduce the cost of writing and maintaining software, and invent novel computing technologies. Researchers focus on more than 55 areas of computing and collaborate with leading academic, government and industry researchers to advance the state of the art in such areas as graphics, speech recognition, user-interface research, natural language processing, programming tools and methodologies, operating systems and networking, and the mathematical sciences. Microsoft Research employs more than 700 people in five labs located in Redmond, Wash.; Silicon Valley, Calif.; Cambridge, England; Beijing; and Bangalore, India. Microsoft Research collaborates openly with colleges and universities worldwide to enhance the teaching and learning experience, inspire technological innovation, and broadly advance the field of computer science. More information can be found at http://www.research.microsoft.com.

About Microsoft

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