MSR Funds Breakthroughs In Colleges, Communities

MSR commits $6 million to projects exploring, for example, how smartphones can help autistic children. Investments advance technologies and help keep computer science alive in schools.

By Aaron Halabe

Using smartphones to help autistic children. Advancing human-genome studies to more personally treat medical patients. Taking human-robot interaction to the next level.

Microsoft will give colleges and universities worldwide more than $6 million in fiscal year 2008 to advance such leading-edge uses of technology, External Research & Programs (ER&P) director Sailesh Chutani told 350 academic researchers this week.

ER&P, part of Microsoft Research, funds academic studies to generate computer-science breakthroughs and explore how technology can help communities. Carnegie Mellon University researchers last year received $100,000 to create a telephone-based system that allows health workers in Karachi, Pakistan, to access patient information using speech recognition, speech synthesis, and natural language-generation technologies.

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"It is useful to think of us almost like a venture capitalist focused on research," Chutani said at the July 15-17 Faculty Summit in Redmond. "A significant number of projects do not succeed because they are, by their nature, very high risk. But many do. ... Our programs are doing well."

About 15 percent of Microsoft Research's total budget goes to academic programs and research worldwide. In five years, ER&P has supported more than 200 college-level research projects, investing more than $50 million and making it the broadest such program in the IT industry, he said. Professors and students respond to Microsoft's requests for proposals, and a strict review process weighs risk versus reward to invest in the best opportunities.

"We look for fields that are in the early stages of definition, where there are lots of open and interesting problems, where we have some relevant assets ... and can establish thought leadership," Chutani said.

ER&P's relationship with Cornell University was the genesis of Microsoft's High-Performance Computing platform, he said. Microsoft's initial contacts with academia helped the company form its robotics incubation group. Initial engagements with academics in India led to creation of MSR India.

"We have also highlighted important opportunities in healthcare and education, both of which could be important to Microsoft's future," Chutani said.

Last year ER&P funded a project that uses smartphones to help autistic children communicate. With a $104,000 grant from Microsoft, Claremont Graduate University and Old Dominion University researchers created a software application that helps autistic children compose messages, and a Web page that allows parents and caregivers to format and download personal images to the handheld devices.

A Bryn Mawr College student holds her new robot, part of a Microsoft-funded program to enhance computer-science coursework at universities.

The cachet of being funded by Microsoft also allows academic researchers to secure additional support from federal and state funding agencies. For every dollar Microsoft invests, researchers are able to raise an additional $1.50, on average, Chutani said.

Participants whose projects are funded get access to Microsoft researchers and software tools. Last year, Microsoft Research announced $500,000 in funding for 12 recipients of Live Labs' Accelerating Search awards. The company made MSN Search queries and click-through information available to the academic community to spur research and innovation in search techniques.

"When we ask academic researchers what contribution industry can offer to advance their work, they would invariably say, 'We need assets,'" said ER&P program manager Evelyne Viegas. "We listened and provided [the search data] under a limited licensing agreement," an industry first, she said.

Researchers at the University of Melbourne used Microsoft's $50,000 gift to help deploy advanced sensors along Australia's Great Barrier Reef. They're monitoring the affects of global warming on coral reef ecosystems. The project will gather environmental data that can be analyzed and shared with other researchers and marine biologists worldwide.

To help promote computer science to a new generation of students, ER&P committed $1 million over three years to create the Institute for Personal Robots in Education. Some computer-science students at the College of Computing at Georgia Tech in Atlanta and Bryn Mawr College, an all-women's school in Pennsylvania, received personal, tabletop-size robots to help them develop programs. This was one of four collaborative institutes ER&P formed in the last fiscal year.

Support for such projects represents some of Microsoft's efforts to make computer science a worthwhile course of college study; data suggests that students' interest has lagged in recent years in the United States.

"It is in our interest that the best and the brightest continue to be attracted to the field of computer science," Chutani said. "We [view] gaming and robotics as a way to make the discipline more compelling, and to make a link between computing and its role in solving some of the big problems of the future."