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CMU's Takeo Kanade Wins ACM/AAAI Newell Award For Career Contributions to Computer Vision, Robotics

Award is Named for a Founding Father of CMU's School of Computer Science

PITTSBURGH—The Association for Computing Machinery (ACM) has named Takeo Kanade, the U.A. and Helen Whitaker University Professor of Computer Science and Robotics at Carnegie Mellon University, the 2010 winner of the [ACM/AAAI Allen Newell Award](http://awards.acm.org/newell/) (<http://awards.acm.org/newell/>) for contributions to research in computer vision and robotics.

The Newell Award, named for one of the founding fathers of Carnegie Mellon's School of Computer Science, recognizes career contributions that have breadth within computer science, or that bridge computer science and other disciplines. It includes a \$10,000 prize and is supported by the Association for the Advancement of Artificial Intelligence (AAAI) and individual contributors. The award will be presented June 4 at the ACM Awards Banquet in San Jose, Calif.

"I am honored and proud to receive this award named after our late Professor Allen Newell," Kanade said. "I first met him in Kyoto, Japan, and he then helped me come to Carnegie Mellon," recalled Kanade, who joined the university in 1980 and now holds the chaired professorship that once belonged to Newell.

Kanade is director of the Quality of Life Technology Center, a National Science Foundation Engineering Research Center he founded in 2006. He headed Carnegie Mellon's renowned Robotics Institute from 1991-2001 and established the Digital Human Research Center in Tokyo in 2001.

"Takeo Kanade has been an important creative and intellectual force in robotics," said Randal E. Bryant, dean of the School of Computer Science. "His work spans everything from novel applications of computer vision to improved motor drives. As director of the NSF Quality of Life Technology Engineering Research Center, he is devising new ways for robotic technology to help people overcome visual, physical and cognitive impairments. We value all that he has done for Carnegie Mellon and for the world of robotics."

Kanade has received a number of high scientific honors, including the Franklin Institute's Bower Award and Prize for Achievement in Science in 2008 and the inaugural Tateisi Grand Award and Prize in 2010.

Kanade's research breakthroughs began while he was in college, when he developed the first complete system for face recognition by computers for his doctoral thesis. Since then, he has continued to explore the science of computer vision, including the physical, geometrical, optical and statistical processes involved in vision. In the early 1980s, he founded and led NavLab, a pioneering project that developed techniques for a vision-based autonomous car, including lane keeping, automatic parallel parking and object detection. NavLab produced a series of self-driving vehicles, including NavLab 5, a minivan that steered itself on a cross-country tour called "No Hands Across America" in 1995.

He co-developed the world's first direct-drive robot arm, which is used by several robot manufacturers and is recognized as one of the most advanced robot arm technologies. Applications of his algorithmic insights, mathematical and physical principles, and rigorous implementation include medical robots for surgical assistance, "virtualized reality" systems for capturing and visualizing three-dimensional scenes and modern graphics effects in video.

Kanade is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.

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About Carnegie Mellon University: Carnegie Mellon (www.cmu.edu) is a private, internationally ranked research university with programs in areas ranging from science, technology and business, to public policy, the humanities and the arts. More than 11,000 students in the university's seven schools and colleges benefit from a small student-to-faculty ratio and an education characterized by its focus on creating and implementing solutions for real problems, interdisciplinary collaboration and innovation. A global university, Carnegie Mellon's main campus in the United States is in Pittsburgh, Pa. It has campuses in California's Silicon Valley and Qatar, and programs in Asia, Australia, Europe and Mexico. The university is in the midst of a \$1 billion fundraising campaign, titled "Inspire Innovation: The Campaign for Carnegie Mellon University," which aims to build its endowment, support faculty, students and innovative research, and enhance the physical campus with equipment and facility improvements.