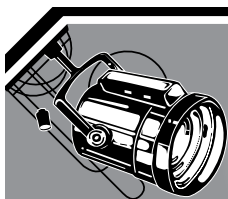# Smart Machines in Education

Edited by Kenneth D. Forbus and Paul J. Feltovich

This book looks at some of the results of this synergy among AI, cognitive science, and education. Examples include virtual students whose misconceptions force students to reflect on their own knowledge, intelligent tutoring systems, and speech recognition technology that helps students learn to read. Some of the systems described are already used in classrooms and have been evaluated; a few are still laboratory efforts. The book also addresses cultural and political issues involved in the deployment of new educational technologies.

500 pp, index. ISBN 0-0-262-56141-7 **To order call 800-405-1619.** *(http://mitpress.mit.edu)*

"Always Interesting"
AI in the news

Jobs of Future Leave Miner's Grandson Scratching His Head, Mike Harden, *The Columbus Dispatch* (January 21, 2002), libpub.dispatch.com. "My grandfather was a coal miner. My grandson might become an artificial-intelligence technician. I don't know what an artificial-intelligence technician does, but I bet he doesn't do as much heavy lifting as a coal miner. I began fretting over the eventual calling of 3-year-old Christian after seeing a list of emerging jobs and careers for the next 25 years. The World Future Society and Futurist magazine compiled the list, which includes jobs such as leisure consultant and horticulture therapist."

Labor Dept. Expands Compliance Help, *Coal Age* (February 1, 2002), www.industryclick.com. "The U.S. Labor Department, in an effort to improve compliance with the Mine Act and other labor laws, plans to expand its array of online 'advisors', a group of computer programs available through the Web that help workers and employers understand complex laws and regulations. The Labor Department web site at www.dol.gov/elaws now has five advisors based on the Mine Act. The advisors, each of which uses artificial intelligence technology and acts as an expert system to help users solve practical problems, cover the following topics: *****The Mine Safety and Health Administration (MSHA) Contractor ID Request Advisor, which helps contractors register with the department; *****MSHA Fire Suppression and Fire Protection Advisor, which helps operators determine minimum fire protection requirements for electrical and diesel equipment...."

AI by Another Name, *The Economist* (March 14, 2002), www.economist.com. "Like big hairdos and dubious pop stars, the term 'artificial intelligence' (AI) was big in the 1980s, vanished in the 1990s—and now seems to be attempting a comeback. The term re-entered public consciousness most dramatically with the release last year of *A.I.,* a movie about a robot boy. But the term is also being rehabilitated within the computer industry. Researchers, executives and marketing people are using the expression without irony or inverted commas. ... Perhaps the biggest change in AI's fortunes is simply down to the change of date. The film *A.I.* was based on an idea by the late director, Stanley Kubrick, who also dealt with the topic in another film, *2001: A Space Odyssey,* which was released in 1969. *2001* featured an intelligent computer called HAL 9000 with a hypnotic speaking voice. ... It may be, however, that now that 2001 turned out to be just another year on the calendar, the comparison with HAL no longer seems quite so important, and AI can now be judged by what it can do, rather than by how well it matches up to a 30-year-old science-fiction film. 'People are beginning to realise that there are impressive things that these systems can do,' says Dr Leake hopefully. 'They're no longer looking for HAL.'"

This eclectic keepsake offers a sampling of what can be found (with links to the full articles) on the AI Topics web site. Please keep in mind that (1) the mere mention of anything here does not imply any endorsement whatsoever; (2) the excerpt might not reflect the overall tenor of the article; (3) although the articles were initially available online and without charge, few things that good last forever; and (4) the AI in the News collection—updated, hyperlinked, and archived— can be found by going to www.aaai.org/ aitopics/html/current.html.

—Jon Glick, Webmaster, AI Topics

New Blood Test Detects Early Ovarian Cancer—Artificial Intelligence May Point Way to Lifesaving Breakthrough, Robert Bazell, *NBC News* (February 7, 2002), www.msnbc.com. "But nine out of 10 women with ovarian cancer ... get the diagnosis after the cancer has already spread because there's often no symptoms—and until now no way to detect it early. For that reason, many experts see a new computer-assisted blood test for ovarian cancer as possibly one of the greatest cancer advances—ever."

Machines Are Filling in for Troops, James Dao and Andrew C. Revkin, *The New York Times* (April 16, 2002), www.nytimes. com.

"But the Pentagon, energized by successes in Afghanistan, is moving ever closer to draining the human drama from the battlefield and replacing it with a ballet of machines. Rapid advances in technology have brought an array of sensors, vehicles and weapons that can be operated by remote control or are totally autonomous. Within a decade, those machines will be able to perform many of the most dangerous, strenuous or boring tasks now assigned to people, military planners say, paving the way for a fundamental change in warfare."

On a Futurists' Forum, Money Backs Up Predictions, Andrew Zipern, *The New York Times* (April 1, 2002), www.nytimes.com. "The Long Bets Foundation, a nonprofit group founded by two longtime Silicon Valley gadflies, Stewart Brand and Kevin Kelly, started an online forum last week for those willing to put their money, and reputations, behind their speculation. ... Ray Kurzweil, an artificial intelligence expert, bet Mitchell D. Kapor, the founder of Lotus Development, that by 2029 'a computer— or machine intelligence' will pass the Turing test, which states that artificial intelligence will be proved when a machine's conversation can be mistaken for a person's. Each man wagered $10,000 of his own money."

Robots That Capture Imagination—Exhibit Traces History of Human Fascination with the Machine, David Galloway, *International Herald Tribune* (January 26, 2002), www.iht.com. "The latest show at Cologne's Museum of Applied Arts (through April 14) offers 40 'milestones' of robot history, from a prosthetic arm to a sausage-sorter, yet can do little more than scratch the surface of a theme that fascinated mankind long before the word 'robota' was coined in 1921 by the Czech author Karel Capek. ... For fans of robotics, however, the significant aspect of 'Maelzel's Chess Player' was not the hoax perpetrated, but that even sophisticated observers saw no hindrance to a machine making calculated, rational decisions. The notion of 'artificial intelligence' was virtually a matter of course."