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## Artificial Intelligence: The Computer Genius

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Artificial intelligence proponents claim that one day technology will enable computers to compete intellectually with human beings on every level and possibly even surpass us in mental dexterity. Computers will be able to write software, perform tasks like driving buses, and answer complex philosophical questions.

Today, however, artificial intelligence has left us with more questions than answers. Even the most fundamental aspects of artificial intelligence, including its definition, are up for debate. Does artificial intelligence refer to an artificially created intelligence or to the ability to merely simulate intelligence (think artificial flavoring). The problem is that since there is no clear way to measure intelligence, we base our measure of intelligence on perception. Some

researchers claim that if a machine appears intelligent, then it is intelligent. Alan Turing, the British mathematician considered by many to be the founder of computer science, developed the *Turing test*, in which a person uses a keyboard to ask questions of two subjects — a person and a machine — who are concealed from the interrogator. Turing held that if the questioner can't determine which subject is the machine, then the machine is intelligent.

Others, however, assert that artificial intelligence means far more. Some believe that machines will reach a state of consciousness and be self-aware — meaning they will perceive their own existence and understand that they are machines, not unlike the basis of Stephen Spielberg's recent film, *A.I.*.

Artificial intelligence, in its most basic form, is a component of a variety of applications. One early implementation employed decision trees in chess software. Even programs like Microsoft Word have a little artificial intelligence built in. Word recognizes user trends, such as how often you access a particular feature, and alters the interface accordingly. Speech-recognition programs, like Dragon Naturally

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[JFMAMJJASOND](#) : "I am a long time Apple computer user (since 1980). I am always amazed how little IBM compatible users know about the rest of the computing world and its history. I am not bashing anyone's platform because what you learned on is often the platform that you are most comfortable using."

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Speaking, use a form of artificial intelligence known as natural language to recognize words, using context to decipher whether you want the word *bold* to be spelled out in a sentence or you want to activate your word processor's command to make text bold. Even more complex uses appear in games like Black & White and Age of Empires II: Age of Kings, where a variety of agents (autonomous programs that monitor the environment and make active decisions on goals to achieve) interact and respond to dynamic situations.

In the next two decades, we're not likely to see artificial intelligence evolve into artificial life. Realistically, artificial intelligence will change the way we interact with computers. Rather than staring at a monitor and clicking icons, the interface is likely to become speech-based. Technology that combines an understanding of language and an ability to solve problems may enable systems that can listen to your description of a software application, then write the software code according to your needs. Or you may be able to have a discussion with your computer as it intelligently draws on information from the Web. Victor R. Lesser, a professor in the Department of Computer Science at the University of Massachusetts, Amherst, expects the most development to occur in this area in the next decade or two.




According to Lesser, one major barrier to artificial intelligence has been inputting extensive knowledge into systems. As the Internet, replete with vast databases of information, solves this problem, artificial intelligence, in turn, will simplify the way we collect information from these resources. Unlike current search engines that simply find a document, intelligent systems will, according to Lesser, "understand [a document], understand its relationship to other documents, understand that you want to answer a particular question, and pull that information out of a collection of documents."

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

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