Artificial Intelligence

Although the concept of artificial intelligence (AI) had long been present in science fiction, its theoretical basis was not established until the early 1950s. At first, investigators in the discipline tackled the problem with great optimism, but over the years the challenge of creating a machine that could "feel" and behave like a human being with a capacity for abstraction—and on occasion act in an illogical manner—revealed its considerable complexity. Today there are amazing robots that still lack these human qualities. ●

Man's Best Friend

AIBO is one of the most complex robot pets ever created. According to Sony Corp, which introduced the robot in 1999, AIBO interacts with its owner, conveys emotions by wagging its tail when it is happy, or seeks attention when it is being ignored. For the present, manufacture has ceased, and customers anticipate a more advanced product.

Touch

The robot dog is sensitive to touch; it can also recognize its owner.

Multitalented

It can move around without bumping into obstacles, and it can imitate typical dog motions, such as lying down and sniffing the ground with its nose. It has its favorite toys and favorite spots around the house.

LEDS

AIBO conveys emotions through its body movements. It also uses LED patterns to communicate with its owner.

Emotions

Happy Angry Sad

Expressions

Recognized its owner Detected an obstacle Has been petted

Favorites

Potted by its owner Favorite spot Favorite things

Dimensions

AI Development

The search for artificial intelligence began in the 1950s. Since then, a number of milestones have been reached. Following are some major milestones.

1950

The Turing test is published. The purpose of the test is to determine whether a machine can be considered intelligent. The challenge consists of having a person converse with a machine and a human being at the same time. If the person cannot decide which interlocutor is the human being, the machine has passed the test. For the time being, no machine has succeeded in doing so.

1956

The researcher John McCarthy coins the term "artificial intelligence" at a celebrated Dartmouth Conference.

1962

Unimation, the first company dedicated to producing robots, is formed. Four years later a computer program called ELIZA becomes available. The program uses a dialogue system that simulates a psychotherapist's speech. According to many users/patients, this system can elicit strong emotions from them.

1973

Freddy, a robot capable of identifying and assembling objects, comes into being at the University of Edinburgh, Scotland.

1994

The twin cars VaMP and VITA-2, developed by the University of Munich and Mercedes Benz, drive under automatic control, carrying live passengers about 620 miles (1,000 km) around Paris, in traffic, at speeds up to 80 miles per hour (130 km/h).

1996

The chess program Deep Blue wins a game of chess against world chess champion Garry Kasparov.

1998

Furby, a small pet that resembles a gremlin, is introduced. It can learn to talk as it grows up. It becomes a retail sensation.

1999

Cynthia Breazeal designs Kismet, one of the first robots to respond to people in a natural manner.

2003

QRIO
A robot made by Sony, QRIO was the first bipedal robot capable of running.
It can run at a speed of 45 ft (14 m) per minute.

The Day a Machine Beat the Best Human

February 10, 1996, is a red-letter day in the history of artificial intelligence. On that day, an IBM computer called Deep Blue won a game of chess in a match against the world chess champion, Garry Kasparov, becoming thereby the first computer to triumph over a reigning world champion. The game was part of a match in which the Russian player prevailed four to two.
In 1997, a rematch was held between Kasparov and Deep Blue, which won by a score of 3.5 to 2.5.

200 million

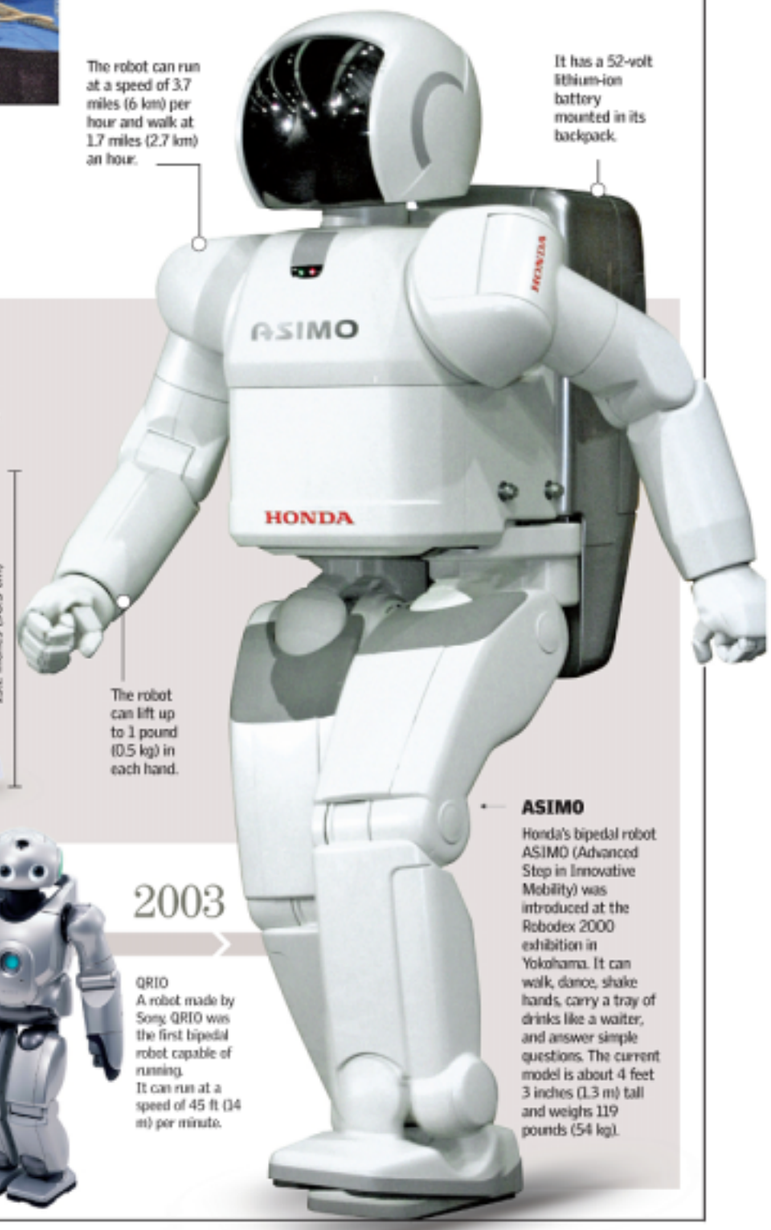
The possible number of positions evaluated each second by the improved version of Deep Blue that defeated world-chess champion Garry Kasparov

Humanoids

Their humanlike appearance could spark our imagination and reinforce the impression that the humanoid is a living machine. At present, commercially sold humanoids serve only as a source of entertainment.

PAPERO

Produced by NEC, PaPeRo is a domestic robot that can recognize the faces of its family members, distinguish colors, read text, dance, and change a TV channel when its owner gives a verbal command. It can tell stories to children, and, by means of its camera eyes, it can send parents images of their children while the parents are at the office.



The robot can run at a speed of 3.7 miles (6 km) per hour and walk at 1.7 miles (2.7 km) an hour.

It has a 52-volt lithium-ion battery mounted in its backpack.

The robot can lift up to 1 pound (0.5 kg) in each hand.

ASIMO

Honda's bipedal robot ASIMO (Advanced Step in Innovative Mobility) was introduced at the Robodex 2000 exhibition in Yokohama. It can walk, dance, shake hands, carry a tray of drinks like a waiter, and answer simple questions. The current model is about 4 feet 3 inches (1.3 m) tall and weighs 119 pounds (54 kg).