Marvin Minsky Reflects on a Life in AI
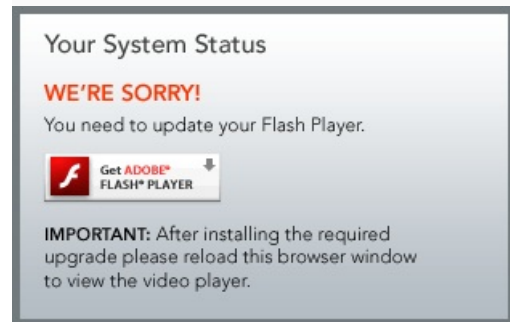
A founding father of artificial intelligence talks about the great breakthroughs of his early years.

By Will Knight on October 30, 2015

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Marvin Minsky is one of the founding fathers of artificial intelligence, and over the past 60 years he has made key contributions in mathematics, robotics, computer graphics, machine perception, and machine learning. I was lucky enough to be invited to meet recently with Minsky at his home in Brookline, Massachusetts, and I took a videographer to capture the conversation.

It was a charming, slightly surreal experience. After all, it's unusual to meet someone who was on a first-name basis with John von Neumann, Claude Shannon, and Albert Einstein. And despite being unwell for the past couple of years, Minsky, 88, hasn't lost his playful sense of humor.

It was also fascinating because artificial intelligence has had a remarkable renaissance in recent years, thanks especially to progress in simulating the process by which neurons and synapses enable a brain to learn. Minsky has had a huge influence on the field's progress toward this new dawn.

In 1951, while studying mathematics at Princeton, he built the first learning machine, an artificial neural network built from vacuum tubes called the Stochastic Neural Analog Reinforcement Calculator, or SNARC. Shortly after that, he turned his attention toward the manipulation of logic and symbols using computers, which guided his later work on artificial intelligence.

In 1959, together with the computer scientist John McCarthy, Minsky founded the Artificial Intelligence Laboratory at MIT. In the 1960s, he attempted to model human perception and intelligence using several early robots. Other achievements include the invention of the confocal microscope.

Minsky's ideas fundamentally influenced both cognitive science and artificial intelligence, and he sought to unravel the aspects of human intelligence in several books, including *The Society of Mind* and *The Emotion Machine*.

Throughout his career, Minsky has sought to build computers capable of more than just computation, and perhaps his most enduring legacy will be encouraging others to believe that intelligence can indeed be born in machines.

Video by Daniel Lovering

Tagged: Computing, AI, artificial intelligence, robotics, Marvin Minsky

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