Dec. 5th

Arthur Lee Samuel

Birth: Dec. 5, 1901;

Emporia, Kansas
Died: July 29, 1990

Samuel's checkers-playing software was quite possibly the world's first self-learning program, and perhaps the first-ever AI software. The day when it beat a human player on [July 12] 1962 is considered a milestone in AI development, and had a major influence on the public perception of computers.

Arthur Samuel. Photo by Xl2085. CC BY-SA 4.0.

Samuel completed the original version at IBM's Poughkeepsie lab on the company's first stored program computer, the 701 [April 7]. However, it wasn't the first checkers playing program – Christopher Strachey [Nov 16] had written a draughts (checkers) program in 1951 for the Pilot ACE [May 10]. In 1954 Samuel ported the software over to an IBM 704 [May 7], and began adding learning elements. Initially, reinforcement learning and later, supervised move adaption and what is now called alpha-beta pruning to reduce the search space for moves. Samuel coined the term "machine learning" in 1959.

A computer capable of playing checkers was great publicity for IBM, and CEO Thomas Watson [Feb 17] predicted that a TV demonstration on Feb. 24, 1956 would raise the company's stock price by 15 points, which it did.

In a 1964 article, "The Banishment of Paper-Work", Samuel probably made the first public prediction that personal computers would become commonplace. However, he also posited that "computers aren't going to get much faster."

In the early 1980's Samuel worked with Donald Knuth [Jan 10] on device drivers for the TeX project. He was responsible for the first user documentation for the system, a, 34-page booklet entitled "First Grade TEX". Samuel had originally told Knuth that it would be a "kindergarten-level" primer, but TEX proved too complicated for that.

Records at Stanford showed that Samuel was still coding on departmental machines on Feb. 2, 1990, which likely makes him the world's oldest active programmer.

Gödel's Citizenship

Dec. 5, 1947

Kurt Gödel [April 28] attended a US citizenship hearing before Judge Philip Forman, accompanied by two witnesses: Albert Einstein [Jan 26] and Oskar Morgenstern [Feb 8].

Gödel had prepared by studying the Constitution in earnest, and announced to his friends that he had discovered a logical flaw in the wording, which could potentially allow the US to be turned into a dictatorship.

Einstein and Morgenstern suggested that this was probably not worth mentioning at the hearing, but the Judge happened to remark how fortunate it was that the US wasn't a dictatorship. Gödel took this as his cue to begin explaining his discovery, until his friends managed to interrupt him. The hearing came to a successful conclusion with Gödel granted citizenship, and he took the formal oath of allegiance on April 2, 1948.

It's unclear what flaw Gödel had found, but most legal experts believe that it relates to Article V which grants the power to amend the Constitution.

ARPANET is Four

Dec. 5, 1969

Today the ARPANET [July 29] reached a grand total of four nodes:

1. The UCLA Network Measurement Center. Its Interface Message Processor (IMP) had been delivered on [Aug 30].

2. The Augmentation Research Center (ARC [Jan 30]) at SRI. Its first host, a SDS 940 called Genie, was connected on Oct. 1.

The first message was sent between these two nodes on [Oct 29], and a permanent link established between them on Nov. 21.

3. The University of California, Santa Barbara (UCSB) became a member of the exclusive club on Nov. 1. This site was chosen due to Glen Culler's [July 7] work on the Culler-Fried Online System, and his group's general expertise in networking. An IBM System/360 Model 75 [April 7] was supported the connection.

4. The University of Utah's computer science Department joined today. It was chosen because of David Evans [Feb 24] and Ivan Sutherland's [May 16] DARPA work. Its node consisted of a DEC PDP-10 running TENEX [April 23].

Acorn Computers

Dec. 5 1978

Acorn Computers was founded by Chris Curry and Hermann Hauser as Cambridge Processor Unit Ltd. (aka CPU), and was based in Cambridge, UK. Curry

had worked on the successful MK14 kit [Feb 00] for Clive Sinclair [July 30], but Sinclair's lack of interest in developing the ideas further persuaded Curry to quit.

Acorn went on to produce a number of popular UK computers, including the Acorn Atom and Electron. But the company hit the jackpot with its BBC Micro [Dec 1] which came to dominate the UK's school market during the 1980's before the rise of the PC and MS Windows.

As part of their plans to create a new processor for the BBC Micro, the company started the Acorn RISC Machine (ARM [April 26]) project in Oct. 1983. The result was the Acorn Archimedes ([June 11] 1987), the first RISC-based home computer.

Bramley Apples from Nottinghamshire. Photo by Marcin Floryan. CC BY-SA 2.5.

Acorn is sometimes called the "British Apple", and Apple actually bought a 43% stake in ARM on [Sept 8] 1990. Acorn has also been compared to Fairchild Semiconductor [March 12] for acting as a catalyst for several other successful tech. companies.

Deep Blue

Dec. 5, 1995

IBM unveiled "Deep Blue", a chess playing computer that would later challenge the World Chess Champion Garry Kasparov. Its name was an amalgamation of "Deep Thought," the mega-computer in "The Hitchhiker's Guide to the Galaxy" [March 8], and IBM's nickname, "Big Blue".

Feng-hsiung Hsu began working on the project at Carnegie Mellon in 1985, and later Hsu, Thomas Anantharaman, and Murray Campbell were hired by IBM Research.

Before "Deep Blue", the team's earlier chess machine was actually called "Deep Thought" and became the first computer to beat a grandmaster, Bent Larsen, in a regular tournament game in 1988.

"Deep Blue" lost its first match against Kasparov on [Feb 10] 1996, but won a re-match on [May 11] 1997 after undergoing a major upgrade. By then it was capable of evaluating 200 million positions per second, making it twice as fast as the 1996 version.

Although some promoters use "Deep Blue" as an example of the wonders of AI, the machine's uncanny abilities mainly derive from its incredibly fast hardware – multiple custom VLSI chips executing a rather conventional alpha-beta search in parallel. It doesn't, for example, use any AI learning techniques which have become popular in recent years. Indeed, one of its developers has explicitly disclaimed that it uses any AI at all.

W32/Mypics. worm

Dec. 5, 1999

Reuters reported the discovery of the first Y2K [Dec 31] worm in the wild, the W32/Mypics.worm. It was transmitted through e-mail as an attachment using code similar to the Melissa virus [March 26].

The virus' name referred to its message which states "Here's some pictures for you !" and the name of the attached file, "Pics4You.exe"

Most of the time, the worm would simply redirect Internet Explorer [Aug 16] to a site containing adult content, but it also attempted to reformat local hard drives on Jan, 1, 2000.

New Morse Code

Dec. 5, 2003

In Geneva, the International Telecommunications Union (ITU) voted to add the "@" symbol (as used in e-mail addresses [April 23]) to the Morse code character set [Oct 19].

The sign, known as a "commat," consists of an "A" (dot-dash) and "C" (dash-dot-dash-dot) combined.

This was the first new Morse character in several decades. In fact, none of the ITU officials or Morse code experts present at the meeting could remember the previous addition.

The change allowed ham radio operators to exchange emails more easily, since they often use Morse to start conversations over the Internet.

DARPA Red Balloon Challenge

Dec. 5, 2009

DARPA's [Feb 7] Red Balloon Challenge involved ten weather balloons moored at fixed locations around the continental US, that were all visible from nearby roads. They were deployed at 10:00am Eastern Time, and taken down at 5:00pm. The first team to submit the coordinates of all the balloons was awarded a prize of $40,000.

The contest was held as part of the 40th Anniversary of the Internet event at UCLA to mark when the four-node ARPANET network was completed [see entry on previous page].

Over 4000 teams participated, and the winning answer was submitted after just 8 hours and 53 minutes by a team from MIT led by Riley Crane. The DARPA organizers were surprised at the speed, and had actually been prepared to deploy the balloons for a second day, and perhaps wait a week for a complete set of answers.

The MIT team used a technique similar to multi-level marketing (or pyramid selling) to recruit helpers through social media.

For more DARPA challenges, see [March 13].