UT LAW CLE THE UNIVERSITY OF TEXAS SCHOOL OF LAW

**PRESENTED AT**

20th Annual Changes and Trends Affecting Special Needs Trusts

February 15-16, 2024
Austin, Texas

# Empowering Individuals with Special Needs: Harnessing AI in the Legal Representation of Clients with Special Needs

**Melissia Riddle**

Author Contact Information:
Melissia Riddle
Hardie Alcozer, PLLC
1607 Nueces Street
Austin, Texas 78701
melissia@hardiealcozer.com
512.374.4922

## I. The History of Artificial Intelligence.

In the early part of the 20th Century, science fiction began to contemplate the idea of artificial intelligence. The silent 1920 film, *Metropolis,* depicted a bleak future in which the villain builds an android, HEL, to mislead oppressed workers and seize power. Stanley Kubrick's 1968 movie, *2001:A Space Odyssey,* features the HAL-9000 supercomputer which values the mission over human life and can be seen as a prototypical representation of AI harming humans due to inaccurately formulated goals and program specifications. In the 1970 film, *Colossus: The Forbin Project*, the supercomputer Colossus is created to control the United States' nuclear weapons arsenal, but then joins with its Soviet counterpart, Guardian, to take control of the world. *Colossus* was one of the first films to explore an existential threat posed by AI, and what could happen if it takes on an uncontrollable life of its own. Other popular examples from the movie industry include *Blade Runner* (1982), *the Terminator* (1984), *the Matrix* (1999), *I, Robot* (2004), and *Wall-E* (2008).

In the real world, the first digital computers were only invented about eight decades ago as shown on the below chart (see fig. 1). Since that time, technology has grown rapidly.

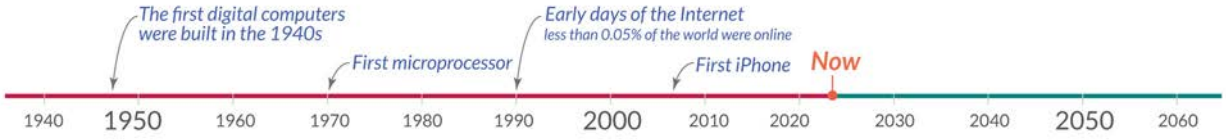


Fig. 1: From *The brief history of artificial intelligence: The world has changed fast – what might be next?* By Max Roser, OurWorldInData.org. https://ourworldindata.org/brief-history-of-ai.

The earliest substantial work in the field of artificial intelligence was done in the mid-20th century by the British logician and computer pioneer, Alan Turing (Copeland, 2023). In 1935, Turing described an abstract computing machine consisting of a limitless memory and a scanner that moves back and forth through the memory, reading what it finds and writing further symbols. The actions of the scanner are dictated by a program of instructions that are also stored in the memory in the form of symbols. This is Turing's stored-program concept, now known simply as the universal Turing machine (Copeland, 2023). Turing gave quite possibly the earliest public lecture (London, 1947) to mention computer intelligence, saying, "What we want is a machine that can learn from experience," and that the "possibility of letting the machine alter its own instructions provides the mechanism for this" (Copeland, 2023). In 1948, Turing introduced many of the central concepts of AI in a report entitled "Intelligent Machinery."

In 1950, Turing introduced a practical test for computer intelligence that is now known simply as the Turing Test. The basic idea of the Turing Test is simple: a human judge engages in a text-based conversation with both a human and a machine, and then decides which of the two they believe to be a human. If the judge is unable to distinguish between the human and the machine based on the conversation, then the machine is said to have passed the Turing Test.

The first working AI programs were written in 1951 to run on the Ferranti Mark 1 machine of the University of Manchester: a checkers-playing program written by Christopher Strachey and a chess-playing program written by Dietrich Prinz (Russell and Norvig, 2021). In 1956, Allen Newell, Cliff Shaw, and Herbert Simon developed the *Logic Theorist*, an artificial intelligence program designed to mimic the problem-solving skills of a human being. The *Logic Theorist* is considered by many to be the first artificial intelligence program, and it was presented at the Dartmouth Summer Research Project on Artificial Intelligence, where the term "artificial intelligence" was coined (Anyoha, 2017).

From 1957 to 1974, AI flourished (Anyoha, 2017). Computers could store more information and became faster, cheaper, and more accessible. The details of two of the best-known early AI programs, *Eliza* and *Parry*, were published in 1966 and gave an eerie semblance of intelligent conversation (Copeland, 2023). *Eliza*, written by Joseph Weizenbaum of MIT's AI Laboratory, simulated a human therapist. *Parry*, written by Stanford University psychiatrist, Kenneth Colby, simulated a human paranoiac (Copeland, 2023). Psychiatrists who were asked to decide whether they were communicating with *Parry* or a human paranoiac were often unable to tell. Nevertheless, neither *Parry* nor *Eliza* could reasonably be described as intelligent, as their responses were canned—constructed in advance by the programmer and stored away in the computer's memory (Copeland, 2023).

During the 1970s and 1980s, there was an evolution of AI techniques. The first one was the "expert system," which imitated human's aptitude to make decisions (Abonamah et al., 2021). For such AI systems, every effort is made to incorporate all of the information about some narrow field that an expert (or group of experts) would know, so that a good expert system can often outperform any single human expert. Computers started to utilize reasoning depending on "rules" - an "if-then/else" procedure used to respond to queries. There are many commercial expert systems, including programs for medical diagnosis, chemical analysis, credit authorization, financial management, corporate planning, financial document routing, oil and mineral prospecting, genetic engineering, automobile design and manufacture, camera lens design, computer installation design, airline scheduling, cargo placement, and automatic help services for home computer owners (Leppert and Schaeffer, 2023).

Another approach which was dominant in the 1970s and 1980s was Symbolic AI. Symbolic AI algorithms work by processing symbols, which represent objects or concepts in the world, and their relationships. The main approach in Symbolic AI is to use logic-based programming, where rules and axioms are used to make inferences and deductions (DataCamp, 2023). Symbolic AI has been applied in various fields, including natural language processing, expert systems, and robotics. Some specific examples include:

- *Siri* and other digital assistants use Symbolic AI to understand natural language and provide responses.
- Medical diagnosis systems use Symbolic AI to provide recommendations to doctors based on patient symptoms.
- Autonomous cars use Symbolic AI to make decisions based on the environment, such as recognizing stop signs and traffic lights.

# Title search: Empowering Individuals with Special Needs: Harnessing AI in the Legal Representation of Clients with Special Needs

Also available as part of the eCourse
2024 Special Needs Trusts eConference

First appeared as part of the conference materials for the
20th Annual Changes and Trends Affecting Special Needs Trusts session
"Empowering Individuals with Special Needs: Harnessing AI in the Legal Representation of Clients with Special Needs"