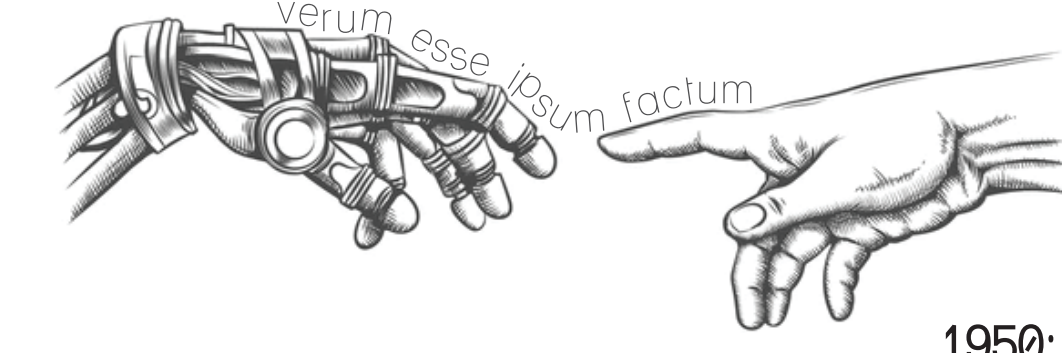


A brief mostly complete history of Artificial Intelligence

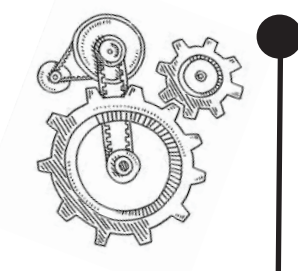
starting around the cybernetics movement

From cybernetics to AI

The idea that humans and machines are essentially the same gives rise to a project where scientists began to seriously consider what it would take to develop machines with human-like intelligence.



The "birth of AI" in the wake of the cybernetics movement. Bringing together the functioning of machines and organic beings.



1942: Accelerated code breaking machine. Alan Turing used the Bombe machine to decode messages encrypted using the Enigma machine at an accelerated pace during WWII.

1949: "The Manchester Baby" runs its first program.

1940's

1948: "Cybernetics" the study of control and communication in the animal and the machine by Norbert Wiener.

1948: Mark 1 Prototype. The first stored program computer also known as the "Manchester Baby". A proof of concept to test the first electronic random-access memory (RAM) device. Built by Tom Kilburn & Freddie Williams.

1943: Machines and behavior "Behavior, Purpose, and Teleology" by Rosenblueth, Wiener, & Bigelow.

1943: "Artificial Neurons" A Logical Calculus of the Ideas Immanent in Nervous Activity by McCulloch & Pitts.

The birth of neural networks



"Artificial Intelligence"

Introduced into the nomenclature by John McCarthy.

"The construction of computer programs that engage in tasks that are currently more satisfactorily performed by human beings because they require high-level mental processes such as: perceptual learning, memory organization and critical reasoning." - Marvin Minsky



1970: "From three to eight years we will have a machine with the general intelligence of an average human being" -Marvin Minsky



1987: VPL Data Glove. A VR glove that controlled a virtual hand.

1989: CYBERFACE. VR glasses created by LeapVR.

"Deep Learning"

coined by Geoffrey Hinton to explain new algorithms that can be trained to recognize objects and text in images and videos.

1997: LSTM. RNN used for handwriting and speech recognition. Created by Hochreiter & Schmidhuber.

2002: ROOMBA i-Robot. First home robot.

2010: XBOX 360 Kinect. First gaming hardware to track body movements and translate it into gaming directions.

2011: Video Recognition. Google X uses a neural network of 16,000 computer processors with 1 billion connections to browse YouTube. The AI identifies cats as a common image.



2013: Word2Vec program that converts language into math is created by Google. In 2015 it was discovered that the model produced biased results such as refusing to categorize women as doctors generating concerns about biased training data.

2016: Google AI's AlphaGO beats Lee Sedol at GO.

2023 The Rise Of GENERATIVE AI

2023: GEMINI. First AI to outperform humans at massive multi-task language understanding tasks. Google DeepMind.

2020: GPT-3. Uses deep learning to create code, poetry, and other language writing tasks. OpenAI.

2020: AlphaFold. OpenAI deep learning system identifies three-dimensional structures of proteins.

2023: GPT-4. The next iteration of OpenAI's GPT system. A large multimodal model that accepts images and texts as inputs. Passed the Bar Exam scoring in the top 10%.

2023: Alibabab's Improved AI. Updated version that can interpret images, carry on complex conversations, and answer open ended questions.

2019: AlphaStar. Beats Grandmaster at StarCraft2.

2011: WATSON created & wins on Jeopardy!

2013: Atlas. First iteration of the humanoid robot is created for search and rescue tasks. Boston Dynamics.

2017: AlphaGo Zero. Beats AlphaGo using a self-training model.

2018: BERT. First bidirectional unsupervised learning model for natural language tasks. Created by GOOGLE.

2021: DALL-E. OpenAI's diffusion model generative AI that can process images to create accurate captions.



2016: SOPHIA. Humanoid Robot becomes the first "robot citizen". Created by David Hanson Jr.

2018: Language processing AI beats human intellect on a Stanford reading and comprehension test for the first time. Created by e-commerce giant Alibaba.

2016: The Next Rembrandt. Deep learning algorithm creates realistic portrait style painting using 3D printing.

2017: Dialog Agents. Chatbots programmed in English and designed to negotiate with each other invented their own language. Facebook AI Research Lab.

2015: SWARM AI. A real-time online tool that makes predictions based on converging information from various sources within a network predicted the winning horse at the Kentucky Derby. Unanimous AI.

2005: Mechanical Turk. Service that recruited humans to hand label over 3 million images across 5k categories for computer vision tasks.

2010: MASSIVE DATA. Access to massive volumes of data made training systems on image classification and recognition possible.

2004: STANLEY. First autonomous vehicle to win the Defense Advanced Research Projects Agency's "Grand Challenge" by successfully navigating a 132-mile course in the Mojave Desert on its own. Stanford AI Lab.

"AUGMENTED REALITY"

Introduced into the nomenclature by Tom Caudell.

1987: Market for specialized LISP-based hardware collapses. Low consumer, public, and private interest in AI.

AI Boom

1980-1987: machine learning shifts from knowledge driven approaches to data-driven approaches.

1976: Physical Symbol System Hypothesis "Computer science as empirical inquiry Symbols and Search" by Newell & Simon.

1979: Gammanoid beats champion at back-gammon. Created by: Hans Berliner.

1983: The problem of "knowledge acquisition" acknowledged as a barrier to AI progress.

1985: RBX5. Using self-learning software the robot would advance from simple responses to making predictions about the future from past events. RB Robot Corporation.

1988: Eigenface. Linear Algebra is used to advance facial recognition programs. Sirovich & Kirby.

1989: The "web" is invented by Tim Berners-Lee.

1989: JABBERWACKY. Amusing chatbot. Created by: Rollo Carpenter.

1986: Back-Propogation for networks of neuron-like units "Learning representations by back-propogating errors" by Rumelhart, Hinton, & Williams.

1989: First successful application of the backpropogation algorithm. Used to recognize handwritten zip codes. AT&T Bell Labs.

1986: First Driverless Car. Could drive up to 55 mph. Mercedes-Benz.

1989: The terms "Hyperlink" and "hypertext" are coined by Tim Berners-Lee.

1990: Market for specialized LISP-based hardware collapses. Low consumer, public, and private interest in AI.

1956: "AI will beat a human at chess within the next 10 years" -Herbert Simon.

1955: First AI Workshop Proposed to be held at Dartmouth in 1956. McCarthy, Minsky, Rochester, Shannon.

1965: DENDRAL. Expert System: hypothesis formation and science Inferences & Logical Conclusions. Feigenbaum & Lederberg.

1963: RAND. First tablet and stylus created. RAND Corporation.

1964: ELIZA. Chatbot. Natural Language Processing. Created by Weizenbaum.

1957: The Perceptron learns to identify shapes; an early form of machine learning. Created by Frank Rosenblat.

1964: STUDENT. Lisp-based program that solved algebra word problems. Created by Daniel Bobrow.

1958: LISP. (List Processing) First Programming Language. Created by: John McCarthy.

1961: UNIMATE. First Industrial Robotic arm available commercially. Created by George Devol.

1959: "Machine Learning" Introduced into the nomenclature by Arthur Samuel at IBM.

1964: Facial Recognition. Used "landmarking" techniques to identify facial features. Created by Bledsoe, Wold, & Bisson.

1961: SAINT. (Symbolic Automatic INtegrator). heuristic problem-solving program for symbolic integration in calculus. Created by James Slagle.

1968: SHDRLU. Natural language processing program that controlled a block world using English language instructions. created by Terry Winograd.

1961: "The Stanford Car". first autonomous vehicle. created by James Adams.

