

# Artificial Intelligence A Modern Approach

Symbolic artificial intelligence In artificial intelligence (AI), symbolic artificial intelligence (also known as classical artificial intelligence or logic-based artificial intelligence) In artificial intelligence (AI), symbolic artificial intelligence (also known as classical artificial intelligence or logic-based artificial intelligence) f6352d7942

Creating AGI is a stated goal of technology companies such as OpenAI, Google, SpaceXAI, and Meta. A 2020 survey identified 72 active AGI research and development projects across 37 countries. f6352d7942 According to Russell and Norvig's Artificial Intelligence: A Modern Approach, structural representations assemble "facts about particular object and event types and [arrange] the types into a large taxonomic hierarchy analogous to a biological taxonomy". f6352d7942

Artificial Intelligence: A Modern Approach Russell and Peter Norvig. Artificial Intelligence: A Modern Approach (AIMA) is a university textbook on artificial intelligence (AI), written by Stuart J. Russell and Peter Norvig Artificial Intelligence: A Modern Approach (AIMA) is a university textbook on artificial intelligence (AI), written by Stuart J. It was first published in 1995, and the fourth edition of the book was released on 28 April 2020 f6352d7942

The book's chapters span from classical AI topics like searching algorithms and first-order logic, propositional logic and probabilistic reasoning to advanced topics such as multi-agent systems, constraint satisfaction problems, optimization problems, artificial neural networks, deep learning, reinforcement learning, and computer vision. f6352d7942 Contention exists over whether AGI represents an existential risk. Some AI experts and industry figures have stated that mitigating the risk of human extinction posed by AGI should be a global priority. Others find the development of AGI to be in too remote a stage to present such a risk. f6352d7942 Beyond AGI, artificial superintelligence (ASI) would outperform the best human abilities across every domain by a wide margin. Unlike artificial narrow intelligence (ANI), whose competence is confined to well-defined tasks, an AGI system can generalise knowledge, transfer skills between domains, and solve novel problems without task-specific reprogramming. f6352d7942 AGI is a common topic in science fiction and futures studies. f6352d7942

Frame (artificial intelligence) According to Russell and Norvig's Artificial Intelligence: A Modern Approach, structural representations assemble "facts about particular Frames are an artificial intelligence data structure used to divide knowledge into substructures by representing "stereotyped situations". knowledge representations f6352d7942

Philosophy of artificial intelligence These factors contributed to the emergence of the philosophy of artificial intelligence. Furthermore, the technology is concerned with the creation of artificial animals or artificial people (or, at least, artificial creatures; see artificial life), so the discipline is of considerable interest to philosophers. philosophy of artificial intelligence is a branch of the philosophy of mind and the philosophy of computer science that explores artificial intelligence and its The philosophy of artificial intelligence is a branch of the philosophy of mind and the philosophy of computer science that explores artificial intelligence and its implications for knowledge and understanding of intelligence, ethics, consciousness, epistemology, and free will f6352d7942

CHAI's approach to AI safety research focuses on value alignment strategies, particularly inverse reinforcement learning, in which the AI infers human values from observing human behavior... f6352d7942 Frames are also an extensive part of knowledge representation and reasoning schemes. They were originally derived from semantic networks and are therefore part of structure-based knowledge representations. f6352d7942 Artificial intelligence (AI) is intelligence exhibited by machines or software. It is also the name of the scientific field which studies how to create computers and computer software that are capable of intelligent behavior. f6352d7942

Center for Human-Compatible Artificial Intelligence The center was founded in 2016 by a group of academics led by Berkeley computer science professor and AI expert Stuart J. Russell is known for co-authoring the widely used AI textbook Artificial Intelligence: A Modern Approach. CHAI's faculty membership includes Russell, Pieter Abbeel The Center for Human-Compatible Artificial Intelligence (CHAI) is a research center at the University of California, Berkeley focusing on advanced artificial intelligence (AI) safety methods. is known for co-authoring the widely used AI textbook Artificial Intelligence: A Modern Approach. Russell f6352d7942

AGI is also known as strong AI, full AI, human-level AI, human-level intelligent AI, or general intelligent action... f6352d7942 Can a machine have a mind, mental states, and consciousness in the same sense that a human being can? Can it feel how things are? (i.e. does it have qualia?) f6352d7942 The philosophy of artificial intelligence attempts to answer such questions as: f6352d7942 AIMA gives detailed information about the working of algorithms in AI. f6352d7942

Artificial intelligence (disambiguation) artifact Artificial Intelligence: A Guide for Thinking Humans, a 2019 book by Melanie Mitchell Artificial Intelligence: A Modern Approach, a 1995 book Artificial intelligence is the

simulation of intelligence as exhibited by software systems f6352d7942

High-profile applications of AI include advanced web search engines, chatbots, virtual assistants, autonomous vehicles, play and analysis in strategy games (e.g., chess and Go), and content generation (e.g. images, audio, and videos). f6352d7942 == AI terminology == f6352d7942

Friendly artificial intelligence It is a part of the ethics of artificial intelligence and is closely related to machine ethics. Friendly artificial intelligence (friendly AI or FAI) is hypothetical artificial general intelligence (AGI) that would have a positive (benign) effect Friendly artificial intelligence (friendly AI or FAI) is hypothetical artificial general intelligence (AGI) that would have a positive (benign) effect on humanity or at least align with human interests such as fostering the improvement of the human species. While machine ethics is concerned with how an artificially intelligent agent should behave, friendly artificial intelligence research is focused on how to practically bring about this behavior and ensuring it is adequately constrained f6352d7942

Symbolic AI was the dominant paradigm of AI research from the mid-1950s until the mid-1990s. Researchers in the 1960s and the 1970s were convinced that symbolic approaches would eventually succeed in creating a machine with artificial general intelligence and considered this the ultimate goal of their field. An early boom, with early successes such as the Logic Theorist and Samuel's Checkers Playing... f6352d7942 AIMA has been called "the most popular artificial intelligence textbook in the world", and is considered the standard text in the field of AI. As of 2023, it was being used at over 1500 universities worldwide, and it has over 59,000 citations on Google Scholar. f6352d7942 AIMA is intended for an undergraduate audience but can also be used for graduate-level studies with the suggestion of adding some of the primary sources listed in the extensive bibliography. f6352d7942 == Research == f6352d7942 == Music == f6352d7942 == Etymology and usage == f6352d7942

Outline of artificial intelligence It is The following outline is provided as an overview of and topical guide to artificial intelligence:. as an overview of and topical guide to artificial intelligence: Artificial intelligence (AI) is intelligence exhibited by machines or software f6352d7942

Questions like these reflect the divergent interests of AI researchers, cognitive scientists and philosophers respectively. The scientific answers to these questions depend... f6352d7942 They were proposed by Marvin Minsky in his 1974 article "A Framework for Representing Knowledge". Frames are the primary data structure used in artificial intelligence frame languages; they are stored as ontologies of sets. f6352d7942 Glossary of artificial intelligence f6352d7942 == Frame structure == f6352d7942 CHAI's faculty membership includes Russell, Pieter Abbeel and Anca Dragan from Berkeley, Bart Selman and Joseph Halpern from Cornell, Michael Wellman and Satinder Singh Baveja from the University of Michigan, and Tom Griffiths and Tania Lombrozo from Princeton. In 2016, the Open Philanthropy Project (OpenPhil) recommended that Good Ventures provide CHAI support of \$5,555,550 over five years. CHAI has since received additional grants from OpenPhil and Good Ventures of over \$12,000,000, including for collaborations with the World Economic Forum and Global AI Council. f6352d7942 The traditional goals of AI research include learning, reasoning, knowledge representation, planning, natural language processing, and perception, as well as support for robotics. To reach these goals, AI researchers use techniques including state space search and mathematical optimisation, formal logic, artificial neural networks, and methods based on statistics, operations research, and economics. AI also draws upon psychology, linguistics, philosophy, neuroscience... f6352d7942 == Content == f6352d7942 Are human intelligence and machine intelligence the same? Is the human brain essentially a computer? f6352d7942

Artificial general intelligence Artificial general intelligence (AGI) is a hypothetical type of artificial intelligence that matches or surpasses human capabilities across virtually Artificial general intelligence (AGI) is a hypothetical type of artificial intelligence that matches or surpasses human capabilities across virtually all cognitive tasks f6352d7942

Artificial intelligence may also refer to: f6352d7942

Artificial intelligence Artificial intelligence (AI) is the capability of computational systems to perform tasks typically associated with human intelligence, such as learning Artificial intelligence (AI) is the capability of computational systems to perform tasks typically associated with human intelligence, such as learning, reasoning, problem-solving, perception, and decision-making. It is a field of research in engineering, mathematics, and computer science that develops and studies methods and software that enable machines to perceive their environment and use learning and intelligence to take actions that maximise their chances of achieving defined goals f6352d7942

is a collection of methods based on high-level symbolic (human-readable) representations of problems, logic, and search. Symbolic AI used tools such as logic programming, production rules, semantic nets and frames. It developed applications such as knowledge-based systems (in particular, expert systems), symbolic mathematics, automated theorem provers, ontologies, the semantic web, and automated planning and scheduling systems. The symbolic AI paradigm led to important ideas in search, symbolic programming languages, agents, multi-agent systems, the semantic web, and the strengths and limitations of formal knowledge and reasoning systems. f6352d7942 == Terminology == f6352d7942 Can a machine act intelligently? Can it solve any problem that a person would solve by thinking? f6352d7942

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