

Chapter 2: The History of AI

1. Setting the Stage

Activity 1: AI Milestones Matching Challenge

Match the key AI milestones with their definitions and correct the provided dates



Milestone	Date	Definition
1. Turing Test	1965	A. IBM's chess-playing computer that defeated world champion Garry Kasparov.
2. Dartmouth Conference	2011	B. A test proposed by Alan Turing to determine if a machine can exhibit intelligent behavior indistinguishable from a human.
3. ELIZA	1950	C. IBM's AI system that won Jeopardy! against human champions.
4. Deep Blue	2020	D. The birthplace of AI as a field, where the term "Artificial Intelligence" was coined by John McCarthy.
5. Watson	1956	E. OpenAI's AI model that generates images from textual descriptions.
6. AlphaGo	2021	F. One of the first natural language processing programs, capable of simulating conversation.
7. GPT-3	1997	G. DeepMind's AI that defeated world champion Lee Sedol in the game of Go.
8. DALL-E	2016	H. OpenAI's language model with 175 billion parameters, capable of generating human-like text.

Activity 2: Think & Share: Reflecting on the Milestones in AI History

Answer the following questions by reflecting on the historical significance of each AI milestone.

1. What makes the Turing Test a pivotal moment in AI history?
2. How did the Dartmouth Conference contribute to establishing AI as a field?
3. In what ways did ELIZA impact early natural language processing?
4. Why was Deep Blue's victory significant for AI research?
5. How did Watson's Jeopardy! win change perceptions of AI capabilities?
6. What strategic innovations did AlphaGo introduce to AI?
7. How does GPT-3 represent a breakthrough in language modeling?
8. What creative possibilities does DALL-E open up?
9. How do these milestones collectively illustrate the evolution of AI?
10. What future implications can you draw from these historical events?

Activity 3: Fact or Myth? Common Misconceptions in AI History

For each of the following statements, decide whether it is a fact or a myth. Write down your answer (either "Fact" or "Myth") along with a brief explanation for your choice.

1. The Turing Test was designed to determine if machines can think exactly like humans.
2. The Dartmouth Conference in 1956 is considered the official birth of AI as an academic discipline.
3. ELIZA was the first natural language processing program ever created.
4. Deep Blue was the first computer to defeat a reigning world chess champion.
5. IBM's Watson defeated human champions on Jeopardy! in 2011.
6. AlphaGo was developed by IBM.
7. GPT-3, with its 175 billion parameters, is one of the largest language models ever built.
8. DALL-E is capable of generating images from textual descriptions.
9. AI's development has been a continuous upward trajectory without any periods of decline, such as AI winters.

10. The evolution of AI has brought about significant ethical challenges along with technical advancements.

2. Take a Listen



Activity 4: Complete the Passage

Fill in the blanks in the following eight statements with the most appropriate words provided:

Data, goals, autocompleting, cell phones, YouTube, 200,000, surveillance, learn, knowledge, interpret, Dartmouth, 1956, data banks, diagnose.

1. Artificial intelligence is helping _____ make loan decisions, and helping doctors _____ patients.
2. It's on our _____, _____ texts.
3. It's the algorithm recommending _____ videos to watch after this one!
4. Some people worry that AI will lead to constant _____ by a Big Brother government.
5. A machine is said to have artificial intelligence if it can _____ data, potentially _____ from the data, and use that _____ to adapt and achieve specific _____.
6. The term "Artificial Intelligence" was coined during the _____ Conference, held in _____.
7. During the Dartmouth Conference, the IBM 7090 could perform about _____ operations per second.
8. The rise of the Internet and social media has provided an abundance of _____ that fuels the AI revolution.

Activity 5: Understanding AI Today

Select the best answer for each question based on the video.

1. Which of the following tasks is mentioned as an everyday use of AI?
a) Diagnosing patients

- b) Autocompleting texts
 - c) Recommending YouTube videos
 - d) All of the above
2. **The video suggests that while some imagine AI will change the world positively, others worry it will lead to:**
- a) The end of human creativity
 - b) Constant surveillance and job loss
 - c) The immediate takeover by robots
 - d) None of the above
3. **What historical event is referenced as a key moment in the development of AI?**
- a) The launch of the first iPhone
 - b) The Dartmouth Conference
 - c) The introduction of social media
 - d) The rise of big data
4. **The video compares the AI revolution to which historical event?**
- a) The Renaissance
 - b) The Industrial Revolution
 - c) The Digital Age
 - d) The Information Age
5. **According to the video, AI systems require which two key components to function effectively?**
- a) Human intuition and artistic skills
 - b) Powerful computers and an abundance of data
 - c) Advanced robotics and virtual reality
 - d) Minimal data and a fast internet connection

Activity 6: Fill in the Missing Words

Fill in the blanks in the following sentences with the correct missing words derived from the transcript. Write the full sentence with your answers.

1. " Even though modern AI systems are integrated into our daily lives, they are typically designed for very _____ tasks. For instance, John Green Bot can classify a photo as 'You are Jabril' , but he cannot _____ or _____ a meaningful conversation. "
2. "At the Dartmouth Conference, a group of _____, cognitive _____, and mathematicians joined forces to develop early AI concepts."

3. "During the AI revolution, computing power increased dramatically; for example, the IBM 7090 could perform about _____ operations per second."
4. "The rise of the Internet and social media has provided an abundance of _____ that fuels the AI revolution."
5. "Even though AI is increasingly integrated into our lives, current systems are limited and often designed for very _____ tasks."

3. Read & Reflect

AI in the Early Days (1995-2005) - The



Foundation of Machine Learning

Before the 21st century, artificial intelligence lingered in the shadows of academic labs and theoretical

debates, with pioneers like Alan Turing and John McCarthy planting seeds decades earlier. The period from 1995 to 2005 marked a quiet but pivotal shift. AI began transitioning from rule-based systems—like IBM's Deep Blue, which famously beat chess champion Gary Kasparov in 1997—to the foundations of modern machine learning. These early systems relied on hand-crafted rules, not the adaptive algorithms we know today, and were limited by scarce data and weak computational power. Yet, this era laid critical groundwork: researchers started exploring neural networks and statistical methods, setting the stage for what was to come. Imagine a time when AI couldn't "learn" from experience—how far we've come from those rigid beginnings!

The Boom of Deep Learning (2005-2015) - Breakthroughs in Neural Networks

The decade from 2005 to 2015 was AI's breakout moment, fueled by three game-changers: the explosion of Big Data, beefy GPUs (graphics processing units), and the rise of deep learning.

Inspired by the human brain's structure, deep learning algorithms allowed machines to recognize patterns, make predictions, and improve over time—without human hand-holding. This was the turning point. By the early 2010s, breakthroughs in natural language processing, computer vision, and robotics emerged. Think of Google's 2012 experiment where a neural network taught itself to spot cats in YouTube videos—a quirky but groundbreaking leap. Big Data became the fuel, GPUs the engine, and deep learning the driver, paving the way for smarter virtual assistants and early autonomous tech. Students, ask yourselves: what happens when machines start teaching themselves?



AI Revolution (2015-2025) - Chatbots, Automation, and AI in Daily Life

From 2015 to today, March 07, 2025, AI has stormed into daily life, reshaping industries and sparking both awe and unease. Chatbots like ChatGPT (launched by



OpenAI in 2022) became cultural phenomena, writing essays, coding, and even offering companionship.

Generative AI tools—think DALL-E or MidJourney—cranked out human-like text, images, and music, blurring lines of creativity and authorship.

Automation hit hard too: manufacturing, logistics, and healthcare saw robots and algorithms boost efficiency, like AI diagnosing medical images faster than

radiologists. But it's not all rosy—the World Economic Forum's 2023 report predicted AI could displace 85 million jobs by 2025, while creating 27 million new ones. Ethical headaches loomed large: biased facial recognition, privacy erosion from data-hungry systems, and the question of who's accountable when AI screws up. This revolution isn't just tech—it's a social earthquake. How do you think society should adapt?

The Future of AI - Where Are We Headed Next?

Peering beyond 2025, the future of AI feels like a sci-fi script with real stakes. Quantum Computing and neuromorphic engineering could turbocharge AI's capabilities, while "explainable AI" might make these black-box systems more transparent. Picture AI predicting disease outbreaks, personalizing education, or fighting climate change with precision we can barely imagine. Yet, there's a flip side: the pace of progress stokes fears of the "singularity"—where AI outsmarts humans—or a tech cold war as nations like the U.S., China, and the EU race for dominance.



Ethical oversight will be key: can we balance innovation with fairness? The call for collaboration between governments, businesses, and society rings true. For students, the question is: will AI amplify human potential or widen our gaps? You might be the ones to decide.

Reference

"The Rise of Artificial Intelligence," transcript from
<https://www.youtube.com/watch?v=vMgL3QA3jEw> accessed March 07, 2025.

Activity 7: AI History Quiz Bowl

Answer these multiple-choice questions by circling the correct option.

1. What system famously beat chess champion Gary Kasparov in 1997?
 - a) ChatGPT
 - b) Deep Blue
 - c) DALL-E
 - d) Google's Cat AI
2. What constrained AI development before 2005?
 - a) Too much data
 - b) Scarce data and weak computing power
 - c) Lack of interest
 - d) Overpowered GPUs
3. What was the "fuel" for AI's breakout moment in 2005-2015?
 - a) Big Data
 - b) Hand-crafted rules
 - c) Chess strategies
 - d) Quantum computing
4. What did Google's neural network learn to identify in 2012?
 - a) Chess moves
 - b) Cats in videos
 - c) Medical images
 - d) Human speech
5. When was ChatGPT launched by OpenAI?
 - a) 1997
 - b) 2012
 - c) 2022
 - d) 2025
6. Which industry benefited from AI diagnosing images faster than humans by 2025?
 - a) Education
 - b) Healthcare
 - c) Music
 - d) Chess
7. How many new jobs did the World Economic Forum predict AI would create by 2025?
 - a) 27 million
 - b) 85 million
 - c) 100 million
 - d) 10 million

8. What technology might make AI systems more transparent in the future?
 - a) Rule-based coding
 - b) Explainable AI
 - c) Floppy disks
 - d) Deep Blue
9. What speculative fear is mentioned for AI's future?
 - a) Too many chatbots
 - b) The Singularity
 - c) Chess dominance
 - d) Job creation
10. What balance is suggested for AI's future development?
 - a) Innovation and fairness
 - b) Speed and secrecy
 - c) Cost and creativity
 - d) Data and rules

Activity 8: AI Phase Puzzle

Match each description or event in the "Question" column to the correct phase of AI history listed in the "Phases" column.

Phases:

- A) AI in the Early Days (1995-2005)
- B) The Boom of Deep Learning (2005-2015)
- C) AI Revolution (2015-2025)
- D) The Future of AI

Questions:

1. Neural networks started mimicking the human brain.
2. IBM's Deep Blue defeated a chess champion.
3. Autonomous cars and drones became common in cities.
4. Quantum computing is speculated to enhance AI capabilities.
5. Big Data provided the fuel for AI breakthroughs.
6. ChatGPT emerged as a widely used tool.
7. AI relied on rule-based systems, not learning algorithms.
8. Ethical concerns like bias in facial recognition grew prominent.
9. A small robot symbolized self-learning breakthroughs.
10. The Singularity is raised as a potential future scenario.

Activity 9: AI Reflections and Predictions

Answer the following questions by reflecting and making predictions.

1. Why couldn't AI "learn" from experience before 2005?
2. What made Google's 2012 experiment a "groundbreaking leap"?
3. How did ChatGPT reshape creativity in the 2015-2025 period?
4. What limited early AI systems like Deep Blue?
5. Why were GPUs critical in the 2005-2015 phase?
6. What social impact did AI automation have by 2025?
7. How might neuromorphic engineering enhance AI in the future? What ethical "headache" arose from AI's use of data by 2025?
8. How could AI fight climate change beyond 2025?
9. Why is collaboration between governments and businesses vital for AI's future?

4. Grammar in Action: Relative Pronouns and Clauses



Relative Pronouns:

Relative pronouns are words used to introduce relative clauses. They refer back to a noun or pronoun (called the antecedent) and link additional information about that antecedent to the main clause. Common examples include *who*, *whom*, *whose*, *that*, and *which*.

Relative Pronoun	Usage	Example Sentence	Explanation
who	For people (subject)	"The scientist who discovered DNA's structure changed biology."	Used as the subject of a relative clause referring to a person.
whom	For people (object)	"The researcher, whom the committee praised, received the award."	Used as the object of a relative clause referring to a person; more formal than "who."

Relative Pronoun	Usage	Example Sentence	Explanation
whose	For possession (people, animals, or things)	"The professor whose lecture inspired me is retiring."	Indicates possession; shows that something belongs to someone or something.
that	For people or things (defining clauses)	"The experiment that changed the field was conducted in 1955."	Used in defining (restrictive) clauses to specify which person or thing is meant.
which	For things, animals, or abstract ideas	"The theory, which was initially controversial, is now widely accepted."	Commonly used in non-defining (non-restrictive) clauses to add extra information about a thing or idea.
where	For places	"The lab where the breakthrough occurred is now a museum."	Refers to a place; used to indicate the location of an event.
when	For time	"The year when AI became mainstream remains a milestone."	Refers to a time; used to indicate when something happened.

Relative Clauses:

Relative clauses are subordinate clauses that modify a noun or pronoun by providing extra details or specifying its meaning. They are introduced by relative pronouns and can be either defining (essential to the meaning) or non-defining (adding extra information).

Type of Relative Clause	Relative Pronoun(s)	Punctuation	Example	Explanation
Defining (Restrictive)	who, whom, whose, that, which	No commas	"The researcher who published the study won an award."	Specifies exactly which researcher is meant; essential information to the sentence.

Type of Relative Clause	Relative Pronoun(s)	Punctuation	Example	Explanation
Non-Defining (Non-Restrictive)	who, which, whose	Set off by commas	"Dr. Smith, who is a renowned expert, presented her findings."	Adds extra, non-essential information about the subject; commas signal that the clause is optional.
Relative Clause (Place/Time)	where, when	Depends on context	"I visited the city where the conference was held."	Indicates the location or time of an event; provides essential details of the context.
Relative Clause with Prepositions	whom, which, that (often with a preposition)	Preposition may precede the pronoun or appear at the end	"The author about whom we spoke is a leading scholar."	Clarifies the relationship by linking a preposition to the clause; emphasizes the connection.

Activity 10: Relative Pronouns in AI History

Fill in the blanks in each sentence with the most appropriate relative pronoun (who, whom, whose, that, which, where, when).

1. Alan Turing, ____ is considered the father of computer science, published his seminal paper in 1950.
2. The Turing Test, ____ evaluates a machine's ability to mimic human behavior, remains influential.
3. Early AI systems relied on algorithms ____ were designed by pioneering researchers.
4. The 1956 conference ____ marked the official beginning of AI as a field attracted many scholars.
5. IBM's Deep Blue, ____ defeated chess champion Garry Kasparov, is a landmark in AI history.

6. Neural networks, ____ were developed during the 1960s, revolutionized data processing.
7. The documentary ____ covered the evolution of AI provided valuable insights into technological progress.
8. Many breakthroughs in AI occurred in environments ____ researchers had access to advanced computing resources.
9. The era ____ AI transitioned from rule-based systems to adaptive algorithms was a turning point.
10. The lab ____ early experiments in machine learning were conducted became a symbol of innovation.

Activity 11: Fixing Faulty Clauses

Read the following 10 sentences related to the history of AI. Each sentence contains an error in the use of relative clauses. Rewrite each sentence correctly.

1. Turing, that is considered the father of computing, published his seminal paper.
2. The algorithm, which it was developed in the early days, laid the foundation for machine learning.
3. IBM's Deep Blue that defeated Kasparov, is a landmark in AI history.
4. The 1956 conference which AI was born, is often considered pivotal.
5. Neural networks that was developed in the 1960s revolutionized data processing.
6. The researcher, whom published many papers, contributed greatly to AI.
7. Early AI systems which relied on hand-crafted rules, was replaced by adaptive algorithms.
8. The company which is known for its breakthroughs in robotics, have influenced the industry.
9. The documentary, that covered the history of AI, provided valuable insights.
10. The lab where early experiments in machine learning were conducted, are still operational today.

Activity 12: Combining Sentences

Combine each pair of sentences into one sentence using a relative clause. Ensure the final sentence is clear and maintains the meaning of the original sentences.

1. Sentence A: "Alan Turing published his seminal paper in 1950."
Sentence B: "This paper laid the foundation for modern AI."
2. Sentence A: "Early researchers developed neural networks."
Sentence B: "These networks revolutionized data processing."
3. Sentence A: "IBM's Deep Blue defeated Garry Kasparov."
Sentence B: "This victory marked a landmark in AI history."
4. Sentence A: "The 1956 conference marked the beginning of AI as a field."
Sentence B: "It attracted many scholars."
5. Sentence A: "Neural networks were developed in the 1960s."
Sentence B: "They changed the way computers process data."
6. Sentence A: "The documentary covered the evolution of AI."
Sentence B: "It provided valuable insights into technological progress."
7. Sentence A: "Researchers analyzed early AI experiments."
Sentence B: "Their analysis revealed groundbreaking findings."
8. Sentence A: "The company is known for its innovations in robotics."
Sentence B: "It has significantly influenced the industry."
9. Sentence A: "The lab hosted numerous AI experiments."
Sentence B: "It became a symbol of innovation."
10. Sentence A: "Modern AI continues to evolve."
Sentence B: "It drives innovation across multiple industries."

5. Speak & Debate

Activity 13: Guiding Ethical Discourse

Discuss the ethical implications and societal impacts of AI throughout its history.

1. Job Displacement vs. Innovation:

- Do you believe that the rapid development of AI justifies the potential risks of job displacement, or do technological advancements ultimately create new opportunities?

2. Ethical Oversight and Pace of Innovation:

- To what extent should ethical oversight influence the pace at which AI technologies are developed and implemented?

3. Historical Lessons for Today:

- How does the historical evolution of AI help us understand and address its ethical challenges in the modern era?

4. Balancing Innovation and Societal Impact:

- What lessons can we learn from early AI research about balancing the drive for innovation with the need to protect societal well-being?

5. Built-In Ethical Frameworks:

- Should AI systems be designed with built-in ethical frameworks, and who should determine these ethical standards?



6. Write with Might



The Turing Test: A Cornerstone of AI's Evolution

Write a well-structured paragraph discussing the significance of the Turing Test in the history of artificial intelligence. Your paragraph should include:

- A brief introduction of the Turing Test.
- An explanation of its role as a foundational milestone in AI.
- Insights on how the Turing Test influenced subsequent developments in the field.
- Use of formal academic language, transitional phrases, and proper grammar.