AI Development

AI - Timeline

4SP2025 Machine Learning Fundamentals
1.3 Discussion: AI & ML Timelines

Robert McCoy

1950
The Beginning

1956
Dartmouth Conference

1966
ELIZA Chatbot

1974 - 1980
First AI Winter

1987-1993
Second AI Winter

1997
Deep Blue Defeats Kasparov

2011
IBM Watson Wins Jeopardy!

2012
Deep Learning Revolution

2016
AlphaGo Defeats Lee Sedol

2022
Chat GPT-3 Released

3/14/2023
GPT 4 Released

7/11/2023
Claude 2 Released

9/6/2023
Google Gemini Announced

12/13/2023
Gemini 1 Released

2/15/2024
Gemini 1.5 Released

2/16/2024
OpenAI's Sora Announced

3/4/2024
Claude 3 Launched

4/5/2024
Grok AI Released

6/21/2024
Claude 3.5 Sonnet Released

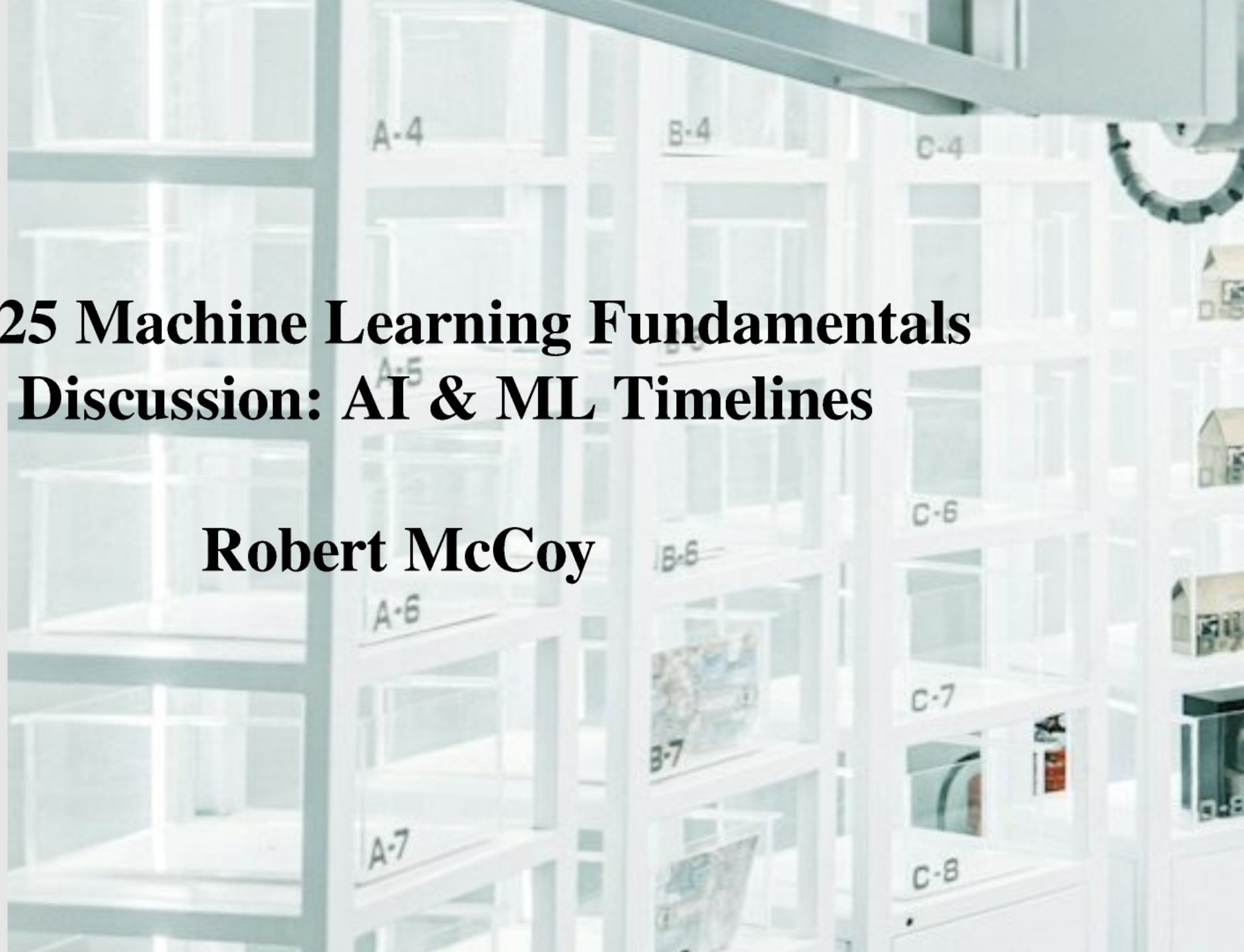
10/10/2024
Claude AI Introduces 'Computer Use'

12/1/2024
Claude 3.5 Haiku Available

2025
China Releases Deep Seek AI

1/23/2025
President Trump Announced an AI Race

2/17/2025
China's AI Action Plan Anno



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1.3 Discussion: AI & ML Timelines

Robert McCoy

1950

The Beginning

Alan Turing publishes Computing Machinery and Intelligence

Turing (1950)

1956

Dartmouth Conference

As the organizer, McCarthy played a pivotal role in coining the term "artificial intelligence" and setting the agenda for the conference. His vision was to create machines that could perform tasks requiring human-like intelligence.

(Yelpaze, 2023)

1966

ELIZA Chatbot

Joseph Weizenbaum creates the first chatbot.

Weizenbaum (1966)

1974 - 1980

First AI Winter

The early promises of AI, such as achieving human-like intelligence, were not realized government funding declines due to lack of progress.

(Toosi et al., 2021)

1987-1993

Second AI Winter

Unmet Expectations: The AI community faced significant challenges due to the high expectations set during the preceding AI boom. Many AI systems failed to deliver on their promises, leading to disillusionment among investors and researchers

(Harguess & Ward, 2022)

1997

Deep Blue Defeats Kasparov

Deep Blue was equipped with a single-chip chess search engine and a massively parallel system, which allowed it to evaluate up to 200 million positions per second

(“Deep Blue,” 2023)

2011

IBM Watson Wins Jeopardy!

Natural Language Processing (NLP): Watson's ability to understand and respond to Jeopardy! questions, which often involve puns and complex language, was a testament to its advanced NLP capabilities.

(Guruduth, 2015)

2012

Deep Learning Revolution

AlexNet wins ImageNet competition, setting off AI boom.

(Aman, 2024)

2016

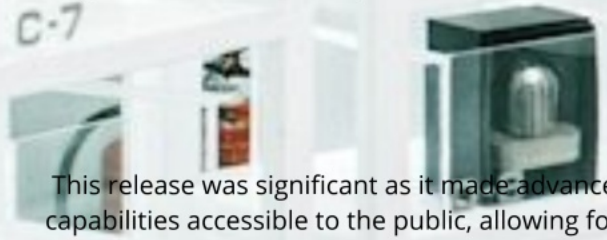
AlphaGo Defeats Lee Sedol

Demonstrates AI's capability in complex strategy games.

(Philippe Sormani, 2023)

2022

Chat GPT-3 Released



This release was significant as it made advanced AI capabilities accessible to the public, allowing for a wide range of applications from creative writing to technical support

- (Barua & Datta, 2024)

3/14/2023

GPT 4 Released

Introduces improvements in reasoning and multimodal capabilities.

(Singh & Singh, 2023)

7/11/2023

Claude 2 Released

Anthropic launches its advanced AI assistant. Its effectiveness in low-resource machine translation into English, despite some evidence of data contamination on the FLORES-200 benchmark.

(Enis & Hopkins, 2024)

9/6/2023

Google Gemini Announced

Google Gemini as a multimodal generative AI tool and presents its revolutionary potential for future educational technology.

(Imran & Almusharraf, 2024)

12/13/2023

Gemini 1 Released

Google suggest that Gemini is not just another AI tool but a significant innovation that could redefine how information is accessed and processed by users.

(Saeidnia, 2023)

2/15/2024

Gemini 1.5 Released

Google introduces an upgraded version with longer context memory.

(Google, 2024)

2/16/2024

OpenAI’s Sora Announced

OpenAI reveals its text-to-video model.

(OpenAI, 2024)

3/4/2024

Claude 3 Launched

Anthropic releases a new iteration of its AI assistant.

(Anthrropic, 2024)

4/5/2024

Grok AI Released

X (formerly Twitter) launches a real-time AI chatbot.

(X AI, 2024)

6/21/2024

Claude 3.5 Sonnet Released

Anthropic launches an upgraded AI model with enhanced reasoning. This new version enhances the AI's capabilities, allowing it to control computers.

(Yang, 2024)

10/10/2024

Claude AI Introduces 'Computer Use'

New feature allows AI to perform actions like taking screenshots.

(Chakrabarti & Kandula, 2007)

12/1/2024

Claude 3.5 Haiku Available

The model had improvemed capibilities in generating code, with studies indicating that it produces longer functions but shorter classes compared to human-authored code. This characteristic aids in the detection of LLM-generated code, with machine learning models achieving high accuracy in identifying such code

(Rahman et al., 2024)

2025

China Releases Deep Seek AI

China's advancements in artificial intelligence, potentially impacting global dynamics and security. The implications of DeepSeek caused increased scrutiny and strategic responses from the United States, reflecting the competitive nature of AI development between the two nations

(“Chinese AI Breakthroughs Will Worry Washington,” 2025)

1/23/2025

President Trump Announced an AI Race

President Trup Announces that it is his vision to lead the world in AI development

(THE WHITE HOUSE, 2025)

2/17/2025

China's AI Action Plan Announced

This plan is part of China's broader ambition to become a global leader in AI by 2030, as outlined in its New Generation AI Development Plan.

(Ministry of Foreign Affairs of China, 2025)

References

Adhikari, S., & Bhawana Dhakal. (2023). Revolutionizing natural language processing with GPT-based chatbots: A review. Technical Journal. https://doi.org/10.3126/tj.v3i1.61943

AI Capacity-Building Action Plan for Good and for All_Ministry of Foreign Affairs of the People's Republic of China. (2024, September 27). Mfa.gov.cn. https://www.mfa.gov.cn/eng/wjbzhd/202409/t20240927_11498465.html

Aman, N. (2024). Redefining intelligence: The deep learning revolution in AI. International Journal of Advanced Research in Science, Communication and Technology, 25–30. https://doi.org/10.48175/ijarsct-16804

Amirhosein Toosi, Bottino, A., Babak Saboury, Siegel, E. L., & Arman Rahmim. (2021). A brief history of AI: How to prevent another winter (a critical review). Pet Clinics, 16(4), 449–469. https://doi.org/10.1016/J.CPET.2021.07.001

Banavar Guruduth. (2015). Watson and the era of cognitive computing. Sigplan Notices. https://doi.org/10.1145/2775054.2694376

Barua, R., & Datta, S. (2024). The future of ChatGPT (pp. 257–273). IGI Global. https://doi.org/10.4018/979-8-3693-6824-4.ch014

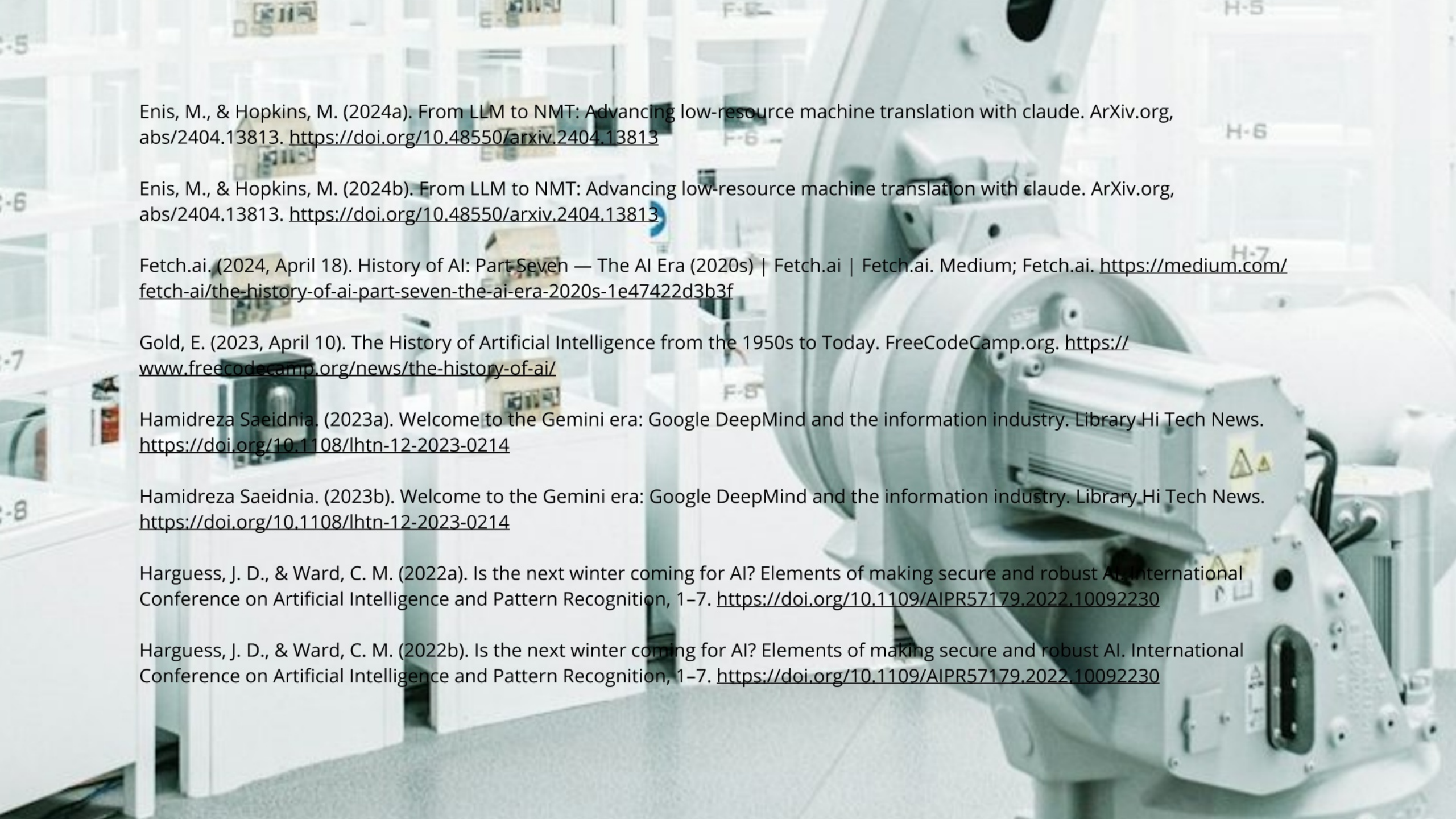
Chakrabarti, A., & Satyam Kandula. (2007). Intelligent screen capture and interactive display tool. https://patents.google.com/patent/US20090031227A1/en

China AI Strategy. (n.d.). Datagovhub.elliott.gwu.edu. https://datagovhub.elliott.gwu.edu/china-ai-strategy/

Chinese AI breakthroughs will worry washington. (2025a). Emerald Expert Briefings. https://doi.org/10.1108/oxan-es292480

Chinese AI breakthroughs will worry washington. (2025b). Emerald Expert Briefings. https://doi.org/10.1108/oxan-es292480

Deep blue. (2023). International Journal for Research in Applied Science and Engineering Technology. https://doi.org/10.22214/ijraset.2023.56304



Enis, M., & Hopkins, M. (2024a). From LLM to NMT: Advancing low-resource machine translation with claude. ArXiv.org, abs/2404.13813. https://doi.org/10.48550/arxiv.2404.13813

Enis, M., & Hopkins, M. (2024b). From LLM to NMT: Advancing low-resource machine translation with claude. ArXiv.org, abs/2404.13813. https://doi.org/10.48550/arxiv.2404.13813

Fetch.ai. (2024, April 18). History of AI: Part Seven — The AI Era (2020s) | Fetch.ai | Fetch.ai. Medium; Fetch.ai. https://medium.com/fetch-ai/the-history-of-ai-part-seven-the-ai-era-2020s-1e47422d3b3f

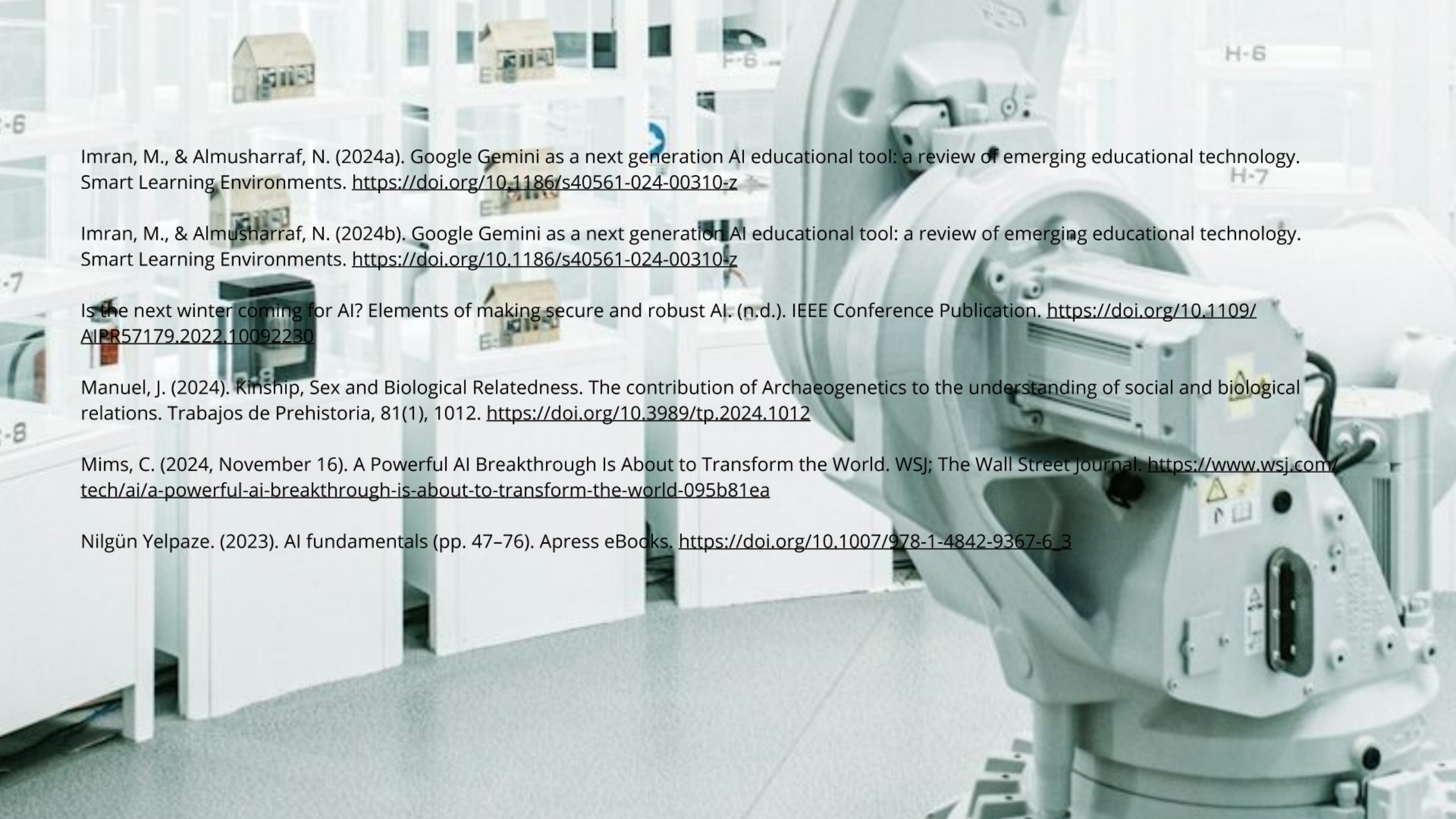
Gold, E. (2023, April 10). The History of Artificial Intelligence from the 1950s to Today. FreeCodeCamp.org. https://www.freecodecamp.org/news/the-history-of-ai/

Hamidreza Saeidnia. (2023a). Welcome to the Gemini era: Google DeepMind and the information industry. Library Hi Tech News. https://doi.org/10.1108/lhtn-12-2023-0214

Hamidreza Saeidnia. (2023b). Welcome to the Gemini era: Google DeepMind and the information industry. Library Hi Tech News. https://doi.org/10.1108/lhtn-12-2023-0214

Harguess, J. D., & Ward, C. M. (2022a). Is the next winter coming for AI? Elements of making secure and robust AI. International Conference on Artificial Intelligence and Pattern Recognition, 1–7. https://doi.org/10.1109/AIPR57179.2022.10092230

Harguess, J. D., & Ward, C. M. (2022b). Is the next winter coming for AI? Elements of making secure and robust AI. International Conference on Artificial Intelligence and Pattern Recognition, 1–7. https://doi.org/10.1109/AIPR57179.2022.10092230



Imran, M., & Almusharraf, N. (2024a). Google Gemini as a next generation AI educational tool: a review of emerging educational technology. Smart Learning Environments. https://doi.org/10.1186/s40561-024-00310-z

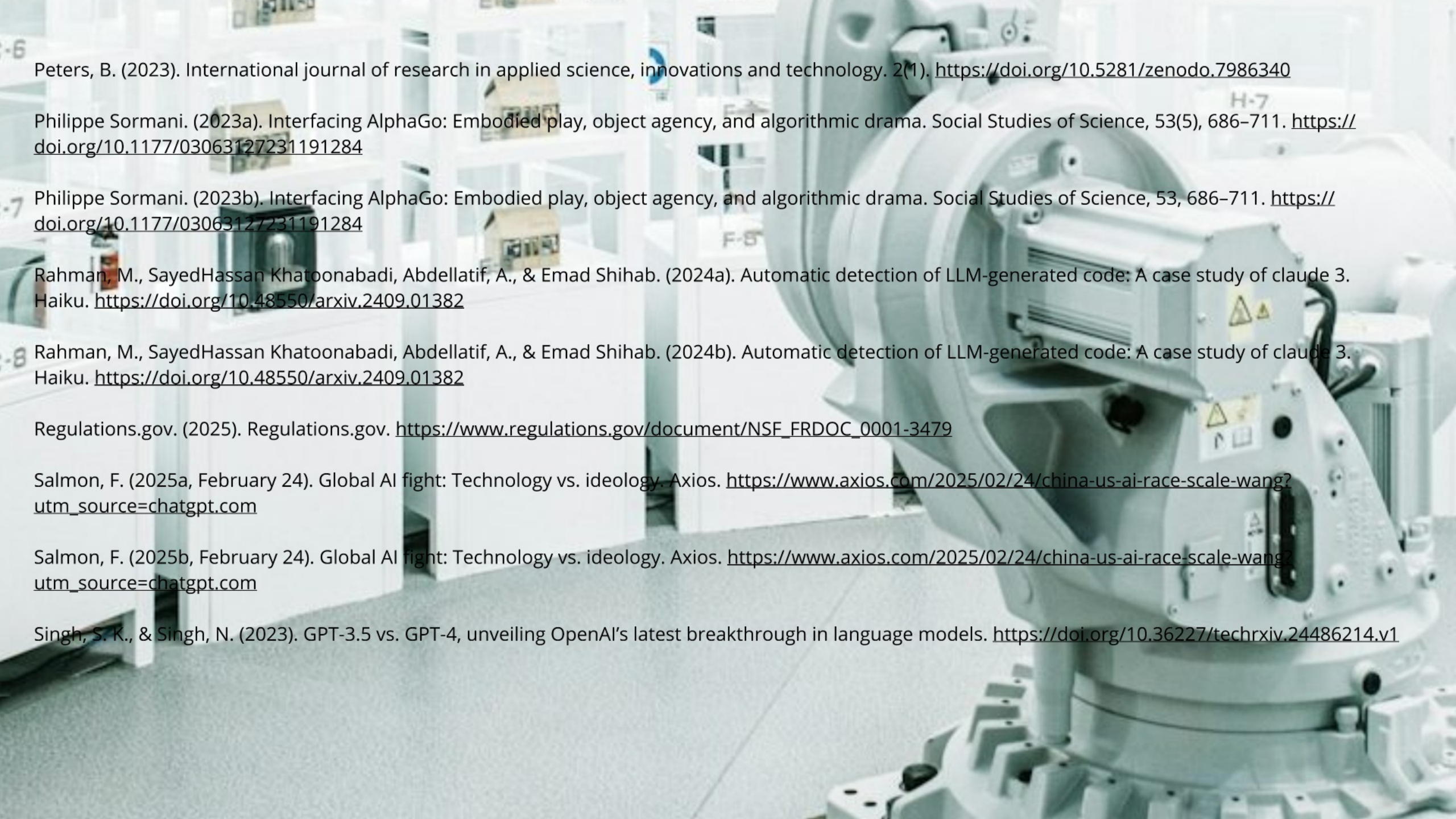
Imran, M., & Almusharraf, N. (2024b). Google Gemini as a next generation AI educational tool: a review of emerging educational technology. Smart Learning Environments. https://doi.org/10.1186/s40561-024-00310-z

Is the next winter coming for AI? Elements of making secure and robust AI. (n.d.). IEEE Conference Publication. https://doi.org/10.1109/AIPR57179.2022.10092230

Manuel, J. (2024). Kinship, Sex and Biological Relatedness. The contribution of Archaeogenetics to the understanding of social and biological relations. Trabajos de Prehistoria, 81(1), 1012. https://doi.org/10.3989/tp.2024.1012

Mims, C. (2024, November 16). A Powerful AI Breakthrough Is About to Transform the World. WSJ; The Wall Street Journal. https://www.wsj.com/tech/ai/a-powerful-ai-breakthrough-is-about-to-transform-the-world-095b81ea

Nilgün Yelpaze. (2023). AI fundamentals (pp. 47–76). Apress eBooks. https://doi.org/10.1007/978-1-4842-9367-6_3



Peters, B. (2023). International journal of research in applied science, innovations and technology. 2(1). https://doi.org/10.5281/zenodo.7986340

Philippe Sormani. (2023a). Interfacing AlphaGo: Embodied play, object agency, and algorithmic drama. Social Studies of Science, 53(5), 686–711. https://doi.org/10.1177/03063127231191284

Philippe Sormani. (2023b). Interfacing AlphaGo: Embodied play, object agency, and algorithmic drama. Social Studies of Science, 53, 686–711. https://doi.org/10.1177/03063127231191284

Rahman, M., SayedHassan Khatoonabadi, Abdellatif, A., & Emad Shihab. (2024a). Automatic detection of LLM-generated code: A case study of claude 3. Haiku. https://doi.org/10.48550/arxiv.2409.01382

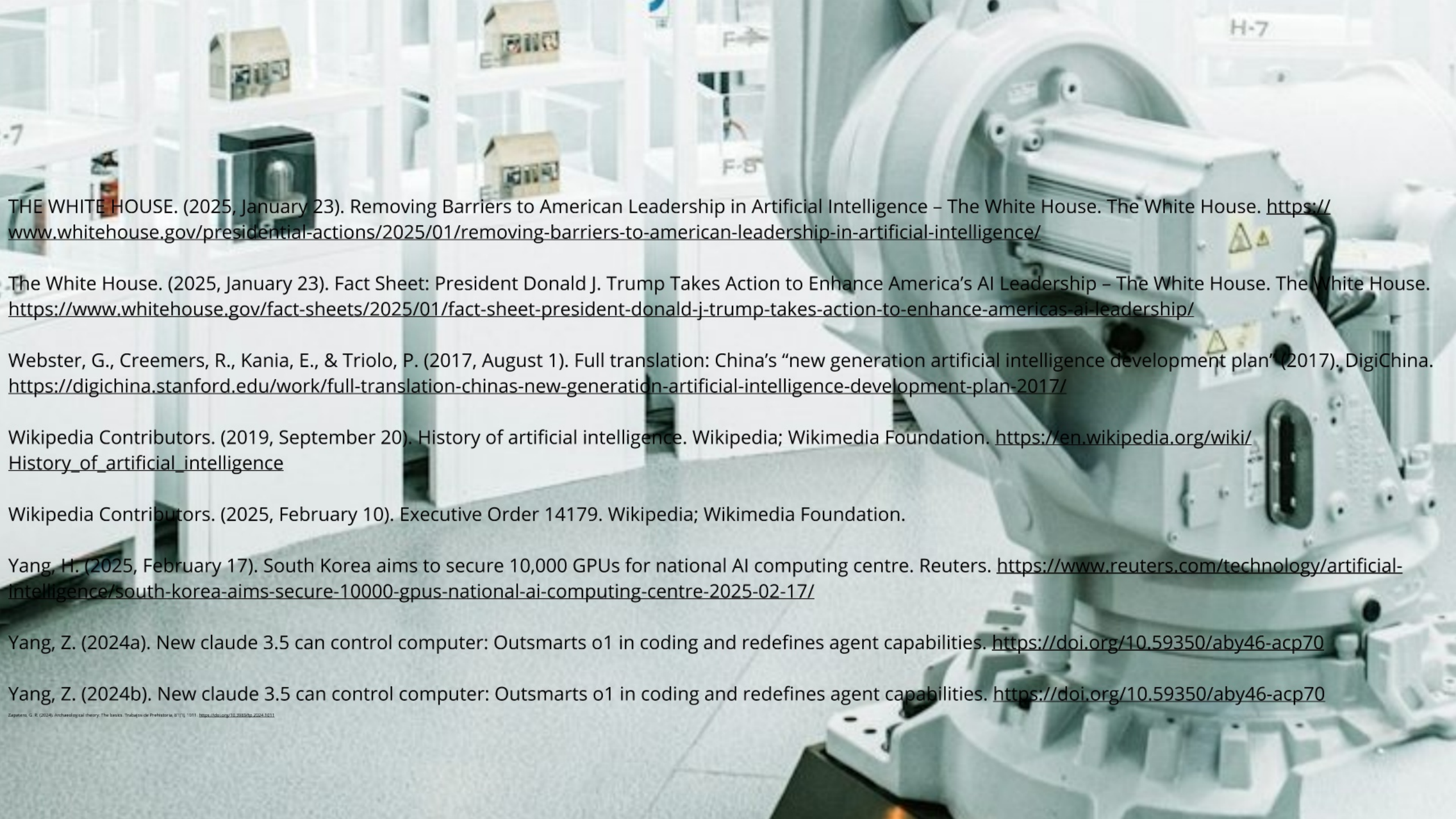
Rahman, M., SayedHassan Khatoonabadi, Abdellatif, A., & Emad Shihab. (2024b). Automatic detection of LLM-generated code: A case study of claude 3. Haiku. https://doi.org/10.48550/arxiv.2409.01382

Regulations.gov. (2025). Regulations.gov. https://www.regulations.gov/document/NSF_FRDOC_0001-3479

Salmon, F. (2025a, February 24). Global AI fight: Technology vs. ideology. Axios. https://www.axios.com/2025/02/24/china-us-ai-race-scale-wang?utm_source=chatgpt.com

Salmon, F. (2025b, February 24). Global AI fight: Technology vs. ideology. Axios. https://www.axios.com/2025/02/24/china-us-ai-race-scale-wang?utm_source=chatgpt.com

Singh, S. K., & Singh, N. (2023). GPT-3.5 vs. GPT-4, unveiling OpenAI's latest breakthrough in language models. https://doi.org/10.36227/techrxiv.24486214.v1



THE WHITE HOUSE. (2025, January 23). Removing Barriers to American Leadership in Artificial Intelligence – The White House. The White House. https://www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/

The White House. (2025, January 23). Fact Sheet: President Donald J. Trump Takes Action to Enhance America's AI Leadership – The White House. The White House. https://www.whitehouse.gov/fact-sheets/2025/01/fact-sheet-president-donald-j-trump-takes-action-to-enhance-americas-ai-leadership/

Webster, G., Creemers, R., Kania, E., & Triolo, P. (2017, August 1). Full translation: China's "new generation artificial intelligence development plan" (2017). DigiChina. https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/

Wikipedia Contributors. (2019, September 20). History of artificial intelligence. Wikipedia; Wikimedia Foundation. https://en.wikipedia.org/wiki/History_of_artificial_intelligence

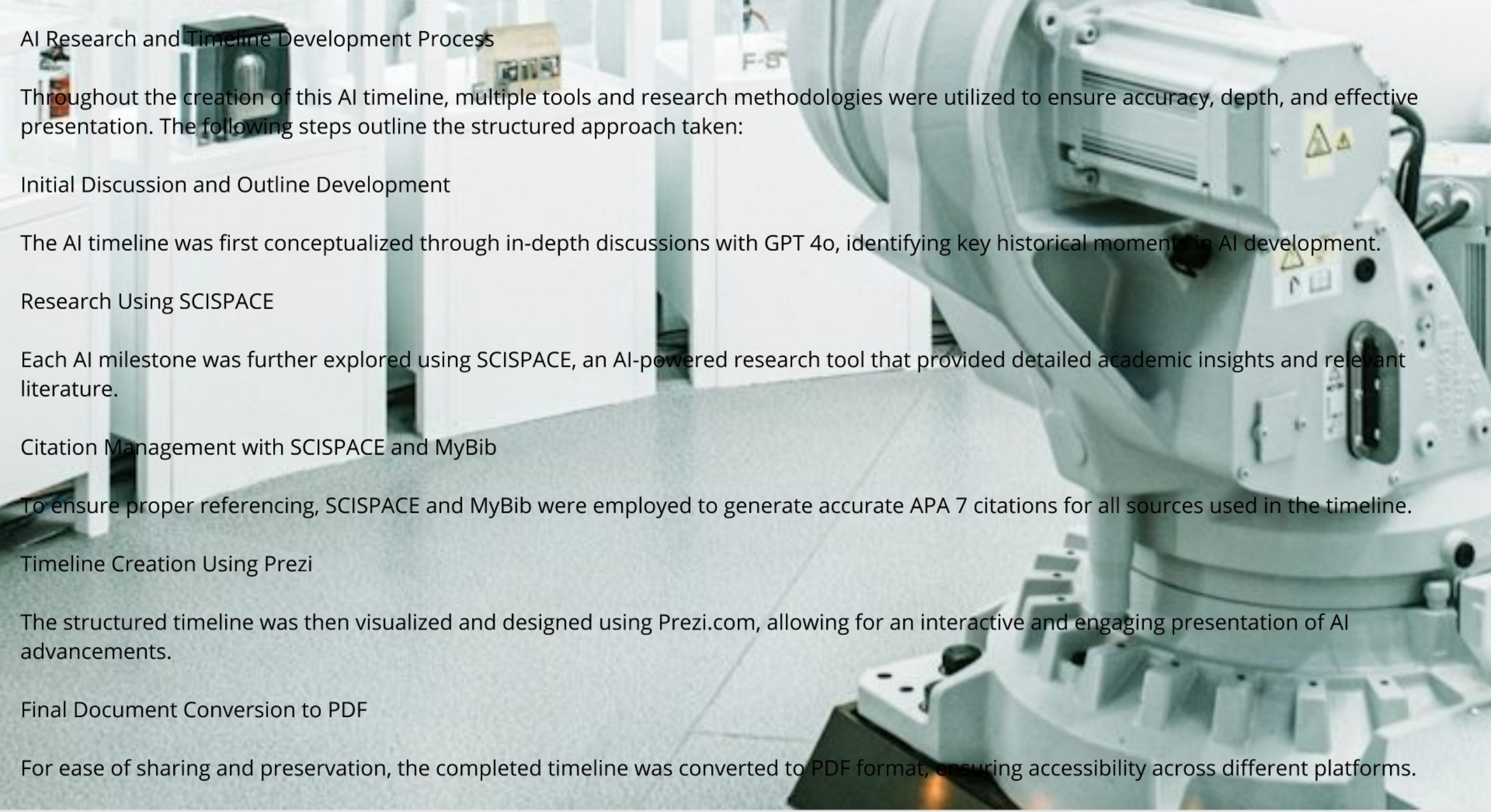
Wikipedia Contributors. (2025, February 10). Executive Order 14179. Wikipedia; Wikimedia Foundation.

Yang, H. (2025, February 17). South Korea aims to secure 10,000 GPUs for national AI computing centre. Reuters. https://www.reuters.com/technology/artificial-intelligence/south-korea-aims-secure-10000-gpus-national-ai-computing-centre-2025-02-17/

Yang, Z. (2024a). New claude 3.5 can control computer: Outsmarts o1 in coding and redefines agent capabilities. https://doi.org/10.59350/aby46-acp70

Yang, Z. (2024b). New claude 3.5 can control computer: Outsmarts o1 in coding and redefines agent capabilities. https://doi.org/10.59350/aby46-acp70

Zapatero, G. R. (2024). Archaeological theory: The basics. Trabajos de Prehistoria, 81(1), 1011. https://doi.org/10.3989/tp.2024.1011



AI Research and Timeline Development Process

Throughout the creation of this AI timeline, multiple tools and research methodologies were utilized to ensure accuracy, depth, and effective presentation. The following steps outline the structured approach taken:

Initial Discussion and Outline Development

The AI timeline was first conceptualized through in-depth discussions with GPT 4o, identifying key historical moments in AI development.

Research Using SCISPACE

Each AI milestone was further explored using SCISPACE, an AI-powered research tool that provided detailed academic insights and relevant literature.

Citation Management with SCISPACE and MyBib

To ensure proper referencing, SCISPACE and MyBib were employed to generate accurate APA 7 citations for all sources used in the timeline.

Timeline Creation Using Prezi

The structured timeline was then visualized and designed using Prezi.com, allowing for an interactive and engaging presentation of AI advancements.

Final Document Conversion to PDF

For ease of sharing and preservation, the completed timeline was converted to PDF format, ensuring accessibility across different platforms.