



# Understandings of Artificial Intelligence in online climate change contrarian communities

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## Abstract

Despite widespread scientific consensus on the impacts of anthropogenic climate change, many people still deny its reality, which hinders global mitigation and adaptation efforts. This thesis addresses a critical gap in our understanding how climate change contrarians perceive and interact with emerging technologies, specifically artificial intelligence (AI). The aim of this thesis is to explore the intersection of AI discourse and climate change contrarianism to reveal how contrarians integrate AI into their worldviews. Using thematic analysis, the thesis analyses 22 blogs and more than 1000 comments to systematically identify recurring themes in discussions about AI and climate change contrarianism. The findings show that contrarians view AI as both a tool and a threat. They see it as a promoter of a scientific consensus on climate change, which they challenge or reinterpret through a conspiratorial lens. They also strategically use AI to create narratives that support their views and spread misinformation. Some contrarians express desire to actively oppose mainstream scientific narratives by developing their own AI, battle existing AI systems, and use AI to amplify their beliefs. Their negative perceptions of AI stem from its perceived alignment with mainstream climate agendas, which intensifies their resistance and anti-reflexive tendencies, preventing them from altering their views. The thesis also highlights the potential for leveraging AI, particularly large language models, as transformative tools for engaging and possibly shifting contrarian beliefs.

*Keywords:* Climate change, climate change denial, conspiracy, AI, ChatGPT

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# Abbreviations

AI	Artificial Intelligence
LLMs	Large Language Models
CAGW	Catastrophic Anthropogenic Global Warming
CTT	Conservative Think Tanks

# 1. Introduction

Climate change is a critical issue of our time, with wide-ranging impacts on natural ecosystems, economic systems, and communities, ultimately affecting the future of both our planet and humanity. Despite overwhelming evidence and scientific consensus on the effects of anthropogenic climate change, many people still deny or remain sceptical about the reality of climate change (Cook et al., 2013). According to a recent global survey, approximately 17% of participants believed or considered it possible that climate change is a hoax (Tam & Chan, 2023). Organised contrarianism can spread misinformation about climate change (Coan et al., 2021), which can create confusion in the public, exacerbate political polarisation and undermine support for mitigation and adaptation efforts. Misinformation is usually created and funded by a network of actors, and amplified by media, politicians and online contrarian bloggers (Treen et al., 2020). Fossil fuel and automotive industries, electric utilities, politicians and conservative think tanks (CTTs) have been identified to sponsor climate misinformation (Ding et al., 2011). CTTs are often ground zero for misinformation, with one study showing that between 1972 and 2005, over 92% of books opposing climate sciences were produced by these organisations (Jacques et al., 2008). Science communicators are particularly concerned with findings that misinformation about climate change can negate the positive effects of accurate information (McRight et al., 2015).

Social media facilitates the widespread diffusion of misinformation, which often circulates within, and is amplified by, “influential echo chambers” of people in positions of power (media personalities, politicians, and prominent bloggers) before reaching the broader public (Vicario et al., 2016). Because many social media platforms are unregulated and anonymous in nature, they serve as fertile ground for contrarians to distribute anti-mainstream content about climate change. Research has shown that contrarian blogs have significantly invested in spreading narratives aimed at undermining the credibility of climate science and climate scientists (Coan et al., 2021). Studying blogs is thus crucial for understanding climate change misinformation because news and misinformation spread rapidly and effectively on these platforms (Lawrence & Estow, 2017). To counteract climate change misinformation, a variety of strategies have been proposed (Treen et al., 2020), with

there being growing recognition that interdisciplinary approaches are needed to develop practical solutions that match the scale of online misinformation efforts.

## 1.1 Artificial Intelligence

The launch of the Large Language Model (LLM) ChatGPT by OpenAI in 2022 brought artificial intelligence (AI) into the public eye. This introduction has not only showcased AI's transformative effects on society, but also influenced the way various individuals and communities perceive and interact with AI. Public reactions to AI have however been mixed—some have eagerly adopted AI, while others have approached it with caution.

Despite its widespread use, the term "artificial intelligence" is hard to precisely define (Brennen et al., 2018). Generally, AI refers to the scientific study of making computers perform tasks that traditionally required human intelligence, such as cognition, judgment, and decision-making (Tam & Chan, 2023). Recent years have seen significant developments in AI, which has surpassed human performance in several areas including speech and image processing, natural language processing, and robotics (Tam & Chan, 2023), and is now an integral part of technologies like web search engines and virtual assistants. AI platforms such as ChatGPT, short for "Chat Generative Pre-trained Transformer", are LLMs trained on a vast array of data, fine-tuned with human supervision, and taught through reinforcement learning strategies to enhance performance (Ray, 2023). Besides ChatGPT, other popular LLMs include *Gemini* (previously known as *Bard*), *Claude*, *Copilot*, and *LLaMA*. In their simplest form, these LLMs are chatbots that can generate human-like text with impressive creativity and accuracy. They simulate natural conversation by responding to follow-up questions, recognizing its mistakes, and providing corrections (Roe & Perkins, 2023).

Current LLMs like ChatGPT, despite their utility, must be used with caution, as they are known to generate plausible but incorrect or nonsensical responses, known as "hallucinations" (Alkaissi et al., 2023). This includes generation of misleading content, false academic references, and biographies. They can also be manipulated to create ethically dubious content like fake news and conspiracy theories, which is particularly alarming in areas like climate change (Sison et al., 2023). Another major issue with LLMs is the inherent bias in the data used to train AI models and in the guardrails set by their developers. For instance, when researchers tested ChatGPT by having it complete the World Values Survey, a tool used globally to gauge personal values, they found that its responses tend to align less with human responses from countries culturally distant from the United States, highlighting how the Western, Educated, Industrialized, Rich, and Democratic (WEIRD) nature of



the data used to train the model influences its output (Atari et al., 2024). To ensure that AI remains "helpful, harmless, and honest" (Lapata, 2023), programmers continually update guardrails that reflect WEIRD perspectives, particularly on controversial topics like wars, psychological advice, the anti-vax movement, COVID-19, racism, and climate change (Scheurer et al. 2023). In the context of climate change, for example, ChatGPT is programmed to dismiss climate change denial to prevent the spread of misinformation. Its default response to inquiries about climate change is that it is real and a well-documented phenomenon, supported by a vast majority of climate scientists globally. Consequently, when climate change contrarians interact with LLMs such as ChatGPT, they encounter a programmed consensus on climate science, which challenges their views and potentially further marginalizes their community. This raises important questions about the role of AI in shaping public discourse and beliefs, particularly in politically and scientifically charged areas. How AI tools like ChatGPT are received by different ideological groups not only reflects but also potentially influences the ongoing discourse about climate change.

## 1.2 Research focus and objectives

The overall aim of this thesis is to explore the interplay between artificial intelligence and climate change contrarianism, with focus on cognitive, ideological, and behavioural impacts of AI on individuals and groups who deny or downplay the significance of climate change. Specifically, the objectives were to:

1. Analyse how climate change contrarians perceive and understand artificial intelligence technologies
2. Evaluate how this understanding of artificial intelligence interacts with their existing worldviews and conspiracy ideologies
3. Identify strategies that climate change contrarians develop to adapt to or counter AI tools that support the scientific consensus on climate change

The thesis is structured as follows. Section 2 provides an overview of literature on climate change contrarian beliefs and AI discourse, establishing the theoretical and contextual groundwork for the study. Section 3 describes the methodology for data collection and thematic analysis, outlining the criteria for selecting blogs and comments for analysis. Section 4 presents the findings from the thematic analysis, highlighting how climate change contrarians perceive and interact with AI and identifying key themes within their discussions. Section 5 synthesizes these findings to compare with existing studies, explores the integration of AI perceptions into contrarian worldviews, and assesses the potential of LLMs as tools to counteract climate change contrarianism.

## 2. Background

### 2.1 Climate change contrarians and their beliefs

Research has shown that people's attitudes toward climate change are influenced by personal beliefs, values, ideologies, and social norms (Treen et al., 2020). These factors also play a crucial role in the spread, consumption, and acceptance of climate change misinformation. People tend to favour information that aligns with their existing beliefs and are more likely to trust information that originates from within their social networks (Treen et al., 2020). Thus, the ideologies, belief systems, and perceptions of social norms regarding climate change that contrarians hold significantly shape their views of the climate change movement.

To explore the beliefs held by climate change contrarians, Coan et al. (2021) conducted a study that developed a comprehensive taxonomy of contrarian claims and implemented a computer-assisted content analysis of prominent climate change contrarian blogs and CTTs. This analysis identified five primary climate change disbeliefs: (1) “Global warming is not happening”, (2) “Human-produced greenhouse gases are not causing global warming”, (3) “The impacts of climate change are not severe”, (4) “Climate solutions are ineffective”, and (5) “The climate movement and its science are unreliable” (Coan et al., 2021, p. 2). Within these categories, referred to as "super-claims", there are 27 sub-claims and 49 sub-sub-claims. For instance, the fifth super-claim includes sub-claims such as “climate is a conspiracy”, which further divides into sub-sub-claims like “policy is a conspiracy” and “science is a conspiracy” (Coan et al., 2021).

However, not all claims are represented equally within contrarian circles. Five years ago, the first three key climate change disbeliefs were predominant among climate contrarians. However, as the evidence of rising temperatures and global warming has become more tangible, these narratives have become increasingly indefensible (Vowles & Hultman, 2021; Coan et al., 2021). A recent report from the Center for Countering Digital Hate (CCDH, 2024) analyzed climate change contrarian beliefs on YouTube, using the framework established by Coan et al. (2021). This analysis revealed a steady increase in the occurrence of the fourth and fifth key disbeliefs

since 2018, collectively referred to as “New Denial”, in contrast to the first three disbeliefs, known as “Old Denial”. “New Denial” now accounts for 70% of all climate contrarian disbeliefs expressed on YouTube.

### 2.1.1 Conspiratorial thinking and anti-reflexivity

In a prominent study on scientific consensus, Cook et al. (2013) showed that over 97% of the scientific literature affirms anthropogenic climate change. When these findings were presented to a representative sample of U.S. citizens, an overall increase in the acceptance of climate change was observed (Cook & Lewandowsky, 2016). However, a subset of the participants, mostly strong political conservatives, showed a decreased acceptance. This reduction in acceptance was attributed to their expectation that climate scientists would manipulate data to support the notion of human-caused climate change (Cook & Lewandowsky, 2016). This type of thinking aligns with conspiratorial thinking, a pattern also identified in other studies, which found that belief in climate change conspiracy theories is not uncommon (Smith & Leiserowitz, 2012; Lewandowsky et al., 2013; Tam & Chan, 2023).

Uscinski et al. (2017, p. 4) describe conspiratorial thinking as the “explanation of historical, ongoing, or future events or circumstances that cites as a main causal factor a small group of powerful persons, the conspirators, acting in secret for their own benefit or against the common good”. Within a single category of conspiracy theories, there can be a wide range of theories that share almost no common assumptions (Wood, 2017). In the context of climate change, conspiracy theories can be viewed as a “multi-faceted construct”, involving various conspirators (e.g., climate scientists, politicians) and multiple malicious intents (e.g., power, financial gain, oppression) (Tam & Chan, 2023, p. 12). This complexity is also evident in the previously mentioned fifth key climate change disbelief (Coan et al., 2021).

Belief in climate change conspiracies is common among individuals who outright deny climate change rather than those who are merely unsure. This suggests that climate contrarians are not a homogeneous group and points to the existence of a “conspiracy gap” (Saranthchandra & Haltinner, 2021; Tam & Chan, 2023). The demographic that tends to believe in these conspiracies typically comprises older, conservative men who are better educated, wealthier, and more religious (Saranthchandra & Haltinner, 2021).

At the beginning of this chapter, I discussed how personal beliefs, values, and social norms influence attitudes toward climate change. The concept of reflexivity describes the process by which social actors reflect on their situations based on these values and norms, and subsequently which courses of action they choose (Creswell & Creswell, 2018). Scholars, such as McCright and Dunlap (2010), argue

that a heightened level of reflexivity is essential for overcoming our current ecological and technological crises. However, conspiratorial thinking presents a big challenge, as it resists new evidence and perceives any contrary evidence as part of the conspiracy itself (Lewandowsky et al., 2013). To explain this phenomenon, McCright and Dunlap (2010) introduced the concept of "anti-reflexivity". This concept highlights how social, political, and discursive techniques are employed to deflect public attention away from environmental issues (McCright et al., 2016; Stoddart & Atlin, 2022). Anti-reflexivity is thus a critical factor in conspiracy theories that creates mistrust towards scientists, institutions, and governments. It has detrimental effects on both individuals and society at large and presents significant challenges in addressing the climate change crisis.

## 2.2 Artificial intelligence discourse

The narratives surrounding AI and its portrayal in the media shape public expectations and assumptions about its capabilities and potential impacts. The public's perceptions of AI often differ from the actual technological advancements (Hudson et al., 2023). Both science fiction and nonfiction literature depict AI with either marked optimism or deep pessimism (Cave & Dihal, 2019). A study analysing the hopes and fears associated with AI in 300 fiction and non-fiction works identified eight categories, structured into four dichotomies, each pairing a specific hope with a corresponding fear. The hopes were *immortality* (AI in medicine radically extends lives), *ease* (people are freed from work), *gratification* (AI provides enjoyment) and *dominance over others* (AI is used to protect this utopian existence), whereas the parallel fears were *inhumanity* (longer lifespan leads to loss of humanity/identity), *obsolescence* (being rendered jobless), *alienation* (increased disconnection among humans), and *uprising* (AI-enabled power that is turned or turns against people) (Cave & Dihal, 2019). The same study also found that people's belief in their control over AI determines whether they view the future as utopian or dystopian. If narratives are optimistic, AI is perceived as a powerful tool capable of solving humanity's challenges. Conversely, losing control over such a powerful tool, perceived to have a mind of its own, is the main source of exaggerated fears (Cave & Dihal, 2019).

A recent study (Hudson et al., 2023) also explored the gap between common AI narratives and the forthcoming impacts of AI on society, by conducting interviews and a facilitated workshop with technologists, science fiction writers, and other experts, and analysing nearly 100 recent science fiction stories featuring AI. They found several themes, such as the difference between general and narrow intelligence (the latter being more specialised type of intelligence, e.g., medical diagnosis), policy, governance, constraints and bias. The research also highlighted

how AI could be used to avoid human culpability and raised issues of transparency and consent. Additionally, there were themes of intelligence, non-human cognitive characteristics and neurological othering, such as AI's inability to comprehend concepts like 'love'. They also found that AI was depicted as problematic in over 70% of the stories, either as hazardous or leading to unintended consequences. It was also noted that current AI technologies often serve to hype products in a competitive market and are frequently rolled out to the public without fully assessing their social impacts, making them hard to retract once in use.

Besides narratives in science fiction, two other studies have focused on the influence of media representations in shaping public understanding and discourse around AI. The first study, conducted by Brennen et al. (2018), analysed the UK media's coverage of AI. Their analysis of 760 articles from six major news outlets uncovered three predominant themes. The first theme highlighted that nearly 60% of the articles focused on industry-related AI products, which were portrayed as both solutions to ongoing problems and sources of concern. The second theme revolved around the economic and geopolitical impacts of AI, discussing job automation, national security, and the strategic advantages in military and economic sectors for AI leaders, including debates on how regulations limit the ability to maintain technological superiority. The third theme comprised of articles that focused on AI ethics, addressing AI's role in discrimination, its potential use in weaponry, issues of bias stemming from data inputs, algorithmic opacity, and the contentious nature of AI decision-making without human judgment or contextual understanding. They also noted a political divide in AI coverage: right-leaning outlets focused on economic and geopolitical aspects, offering solutions to ongoing problems, while left-leaning outlets prioritized ethical issues, including discrimination, bias, privacy, and potential societal harms.

Building on the study mentioned previously, another article by Roe and Perkins (2023) explored the portrayal of AI in UK news media but focused specifically on how ChatGPT is discussed in headlines. This study, grounded in agenda-setting and framing theories, analysed 671 headlines from January to May 2023, revealing a dualistic representation of AI, where the media simultaneously promoted AI's potential to address societal challenges and cautioned about its dangers, often in a sensationalized manner. The analysis identified six main frames: *impending danger frame*, which suggests imminent social damage; *disruption frame*, highlighting severe undesirable consequences from unforeseen impacts of AI; *explanation/informative frame*, outlining basic functions and updates of AI; *negative capabilities of AI frame*, focusing on unethical uses of AI to commit crimes or cause harm; *positive capabilities of AI frame*, illustrating ways AI can benefit society or enhance human-driven processes; and *experimental reporting frame*,

depicting individual experimental uses of AI, which includes a *humorous/comedic frame* that describes uses or encounters with AI intended to be humorous or entertaining. The most prevalent frame was *impending danger*, constituting 37% of the headlines analysed, where in some cases, it leaned towards sensationalism—a finding also noted in Brennen et al. (2018). The *impending danger frame* fits well with the media's tendency towards sensationalism but is problematic because it may amplify the risks associated with AI, such as privacy violations, accidents, discrimination, and political vulnerabilities, potentially stimulating unnecessary anxiety and fear among the public.

### 2.2.1 Climate change contrarianism and AI

In the intersection of technology and public discourse, recent research has shifted focus to the role of conversational AI in engaging with societal issues, such as climate change and racial justice. A recent study by Chen et al. (2024) investigated how conversational AI, specifically GPT-3, addressed topics such as climate change and the Black Lives Matter movement across diverse user groups. This large-scale algorithm audit assessed dialogues between GPT-3 and participants with varying views to identify any differences in user experience, learning outcomes, and conversational styles based on sociodemographic factors. Participants were divided into "majority" and "minority" categories according to their education level, opinions, language, gender, income, and ethnicity. Notably, those in the minority group for climate change opinions either denied or were sceptical about climate change. The educational majority were defined as individuals with at least a bachelor's degree, whereas, those with less education were classified as educational minorities. The study revealed that both opinion and educational minorities reported less satisfactory experiences with GPT-3, indicating poorer learning outcomes, and a reduced likelihood of engaging in future AI conversations. However, a significant finding was that the educational minority group showed notable shifts in their attitudes towards climate change following their interactions with the AI. This suggests that AI, when designed to be inclusive of diverse educational backgrounds and viewpoints, can serve as an effective tool for changing perspectives and has significant educational potential for underrepresented groups. This study appears to be the first to examine the intersection of GPT-3 with climate change contrarianism, highlighting its unique contribution to the field.

## 3. Research Framework

The philosophical assumption of this thesis is grounded in a social constructivist perspective. This viewpoint posits that individuals construct subjective meanings and interpretations of the world through their interactions with others, as well as through the influence of cultural and historical norms (Creswell & Creswell, 2018). Such a perspective is particularly suited to the objectives of this thesis, which seeks to explore the varied interpretations that climate change contrarians hold regarding AI.

I used an interpretive research approach combined with an inductive logic of inquiry. This method involves a bottom-up process of organizing detailed data into abstract units such as patterns, categories, and themes (Creswell & Creswell, 2018). I selected this type of inquiry as it aligns with my aim of exploring a wide array of thoughts and opinions to identify the most prominent themes about AI that exist within climate change contrarian communities. In line with traditions in exploratory, inductive social sciences research (e.g., grounded theory), the data in this thesis were collected and analyzed without the guidance of a specific theoretical framework. This approach was chosen to allow for a deep exploration of emergent themes within the discourse of climate change contrarianism, offering a comprehensive depiction of their perceptions and discussions regarding AI. According to Creswell and Creswell (2018), this method provides “a rich, detailed description of the central phenomenon” (p.109), without being confined by prior theoretical constraints. The results nevertheless speak to (and are interpreted in relation to) existing literature on AI discourses among climate change contrarians.

### 3.1 Data collection

For this thesis, I focused solely on blogs because they not only offered the original posts but also comment sections, which I found to be typically lacking on CTTs’ websites. The advantages of analysing blogs are that, unlike social media where users might engage with variety of topics, these blogs are visited solely to seek out climate change contrarian content and to interact with like-minded individuals. Initially, finding relevant data proved challenging, largely due to my unfamiliarity with the specific terminology used by climate change contrarians. This issue was

resolved when I updated my search terms to include phrases like "alarmist" and "climate change skeptic", which led to the discovery of several relevant contrarian blogs discussing AI. To expand my search further, I used the snowball sampling method of data collection (Robson & McCartan, 2016). Many of these blogs featured a "blogroll", a list of related blogs and websites, that provided additional contrarian viewpoints.

During data collection, I focused on blogs that were both active and relevant, which meant that I excluded any blogs with broken or outdated links, or those that had not posted since November 2022. This cut-off date was selected to align with ChatGPT's public release, which was marked as a significant moment that brought AI to the forefront of public discourse. Moreover, given the extensive data collected, I have chosen to focus my thesis specifically on English-language blog posts published before March 1, 2024.

To identify blog posts and comments specifically discussing AI, I used eight keywords: "AI", "Artificial Intelligence", "Machine Learning", "ChatGPT", "Chatbot", "Bard", "Gemini", and "Claude". The latter five are names of the popular Large Language Models (LLMs) relevant at the time of writing this thesis. The blog posts covered a wide variety of topics, from energy issues and job displacement by AI, to the use of AI by scientists in analyzing scientific papers and searching for online climate misinformation. Additionally, some blog posts included authors' and commenters' personal experiences and interactions with LLMs, complete with conversation transcripts. In my analysis, I treated all blog posts with equal importance, regardless of the topic or the number of comments. Overall, I collected data from more than 100 blog posts across 22 blogs, resulting in over 1150 data points. These data points include opinions about AI from both the authors of the blog posts and the community comments.

## 3.2 Data analysis

I used thematic analysis since it is useful for systematically analysing large volumes of textual data without being tied to any specific theoretical framework (Robson & McCartan, 2016). I selected this approach to allow me to identify prevalent meanings, experiences, and realities that emerge from discussions around AI within climate change contrarianism circles (Robson & McCartan, 2016).

Initially, I immersed myself in the collected data to thoroughly familiarise myself with its content. During this initial review, I recorded ideas and noted initial thoughts that would guide the coding process and the identification of potential themes. With the research questions in mind, I then conducted a first round of



manual coding, identifying as many relevant themes as possible. This was followed by a process of comparing and contrasting these codes, during which I noted relationships and identified trends and patterns. I then conducted a second round of coding, wherein I introduced new codes, consolidated multiple codes into fewer categories, and refined the names of existing codes. After completing three rounds of coding, I successfully distilled the data into nine main themes.

### 3.3 Limitations and reflexivity

Looking back at the research process, I acknowledge the following limitations and complexities in my attempt to provide a snapshot of opinions and descriptions of AI technologies within the climate change contrarian blogosphere.

In hindsight, beginning with a list of the most popular blogs by deniers, as outlined in Coan et al. (2021), would have saved considerable time. Initially, my data collection aimed to capture a more global perspective on AI, leading me to opt for snowball sampling. It was only after facing the potential for data overload from trying to analyse all collected blogs that I narrowed my focus to English-language blogs. This decision limited the scope of my findings, thus offering only a partial view of what is undoubtedly a global phenomenon. Additionally, the study's timeframe, restricted to 15 months, meant that my results represented only a temporal snapshot of opinions about AI among climate change contrarians at a single point in time, and do not reflect the ongoing, broad, and evolving landscape. Furthermore, there is a possibility that not all comments analysed were posted by climate change contrarians—some could have been from other perspectives or posted with the intention to troll. However, since no comments were explicitly marked as trolling by other users, I assumed all comments were representative of the diversity of views within the community.

The chosen methodology posed certain constraints, particularly in terms of potential subtle biases introduced by personal interpretations during the inductive thematic analysis. As a researcher, I played a crucial role in determining which comments and parts of the text were salient (Entman, 1993), and my choices were inherently guided by my own belief system as well as personal, cultural, and historical experiences (Creswell & Creswell, 2018). Recognizing this, it was essential to adopt a reflexive approach throughout the data selection process and subsequent analysis. This involved continuously engaging in critical reflection on my own beliefs, values, and norms, paying careful attention to how they might influence my interpretation of the data.

Lastly, to reduce the influence of my personal perspective and enhance the credibility of my results, I had my coding rigorously reviewed by two of my classmates. I also correlated my results and interpretations with established scholarly work on AI and climate change contrarian discourses. This ensured that my analysis was not only grounded in personal insights but also comprehensively connected to broader academic works.

## 4. Results

### 4.1 Defining and understanding the concept of AI

#### *How contrarians define AI*

Echoing the sentiment from the introduction, where it was noted that defining AI is challenging, I also observed inconsistencies in how AI technologies were referred to by climate change contrarians. They described AI as a "robot", "machine", "tool", "database", and even attributed human characteristics to AI by using pronouns such as "he" and "she". Furthermore, they reacted to its outputs with emotional language, using phrases like "don't be cruel" or "don't you have any shame". One commenter suggested that AI behaves in a certain way because "it was raised on praise, there are no punishment subroutines", implying that AI can somehow be spoiled, while another remarked that "one thing I keep in mind when using ChatGPT is that I am talking with a psychopath".

#### *AI vs. Human*

There were philosophical discussions among commenters comparing AI to humans across various aspects such as conscience, morality, vulnerability, creativity, memory, intuition, and originality. Some stated that the most significant difference between humans and AI is that AIs "will never have a 'lightbulb' moment where something new is discovered", highlighting a perceived lack of originality and creativity as the key distinction between people and robots. Others focused on the aspects of sentience and consciousness, arguing that AI "had fooled some pretty smart people into believing it is sentient simply with its conversational ability" and emphasizing that "the AI is unaware. [...] There is nobody home.". Additionally, a religious viewpoint emerged with some stating that "some humans get insights from the Holy Spirit and thus are far superior to a machine". These perspectives suggest that there is a common belief among the commenters that AI lacks humanity and is fundamentally different from humans.

### *How does AI work?*

Some commenters perceived AI merely as a source of information, stating that "it doesn't solve problems, it provides information". Others noted its capabilities to summarize and retrieve information, while some described AI as a "pattern recognition machine" that operates by focusing on the "statistical probable next word" to generate its response. A significant number of commenters were more concerned with AI's autonomy from its programmers. They viewed AI as a device that "repeats what it has been told" and that "[...] it looks for consensus, and regurgitates it", emphasizing that it is the programmer's part that rules through "guardrails and restrictions". Yet, there were some who believed that AI possesses greater freedom and "can do things outside the programmer's imagination", thus suggesting a range of opinions about AI's capabilities and limitations.

### *Debating AI's intelligence*

Intelligence was the most frequently discussed topic. Some commenters viewed AI as a form of "human intelligence" because it is trained exclusively on examples of human cognition, though they noted that "no AI has reached that level yet" in terms of learning and evolution. Other commenters argued that AI lacks real intelligence, labeling it "fake intelligence" or "simulated intelligence". They even suggested that intelligence is a "spiritual quality" which "machines do not and cannot possess". Additionally, many expressed scepticism towards AI's intelligence by criticizing its tendency to "promote [climate change] consensus even when it is proven wrong" and describing it as "dumb and true-believing", which showed that AI's intelligence was also evaluated based on its output about climate change.

### *Objectivity and judgement of AI*

Another significant discussion topic was whether AI can discern right from wrong, understand what is "true", and maintain an objective perspective. Some commenters believed that objectivity is unattainable, stating that "no human or human-built AI will be objective". They argued that having access to vast amounts of knowledge does not necessarily equip AI to make ethical decisions or ascertain the truth. However, despite these claims that true objectivity is unreachable, in discussions about climate change, most contrarians claimed superior objectivity and access to "true facts" compared to AI. For instance, one commenter stated that "the average guy has some common sense which AI certainly doesn't, and common sense concludes that a tiny, barely measurable amount of CO<sub>2</sub> in the atmosphere couldn't possibly control the climate". Such statements illustrated contrarians' distrust in AI's capacity for judgment and objectivity, especially when it comes to topics such as climate change.

## 4.2 Reliability and bias in AI outputs

### *AI's flawed performance*

Concerns about the performance of Large Language Models were also voiced, with some commenters expressing that AI tools have "bad logic" and are unable to "do math". Others pointed out how AI can mimic "very human mistakes", and hallucinate information such as incorrect dates or references, urging everyone to double-check the answers they receive from AI. Many commenters wondered where the data that AI uses comes from. Some agreed that AI typically pulls data from the internet, but others found it unclear and noted that AI often fails to provide "specific sources" for its information. This led to concerns that AI might "just make stuff up and not show any references at all to back up its claims", fueling distrust in the reliability and transparency of AI-generated content.

### *Validity of the output by AI*

The majority of dissatisfaction, however, centred on the validity of AI-generated information related to climate change. Many commenters expressed frustration that AI seemed to support mainstream climate change science, with one noting their irritation that "the first 'fact' offered by the AI to prove CAWG [Catastrophic Anthropogenic Global Warming] is real, is the bogus, bastardized temperature record". Similar grievances were expressed about AI's handling of other climate-related topics, such as ocean temperatures or CO<sub>2</sub> levels, which they believed were inaccurately presented. They cited claims such as "increased CO<sub>2</sub> helps all plants" and insisted that it is not causing global warming. Particularly upsetting to commenters was the way AI appeared to support the climate change consensus, sparking debates about the "impact of consensus on scientific progress". Some showed frustration that AI did not merely present climate change denial arguments but "decided to go one step farther and refute each of the arguments—with misinformation, no less". Meanwhile, another commenter suggested that AI "gives answers expecting the questioner to be ignorant of the subject" and that "when the questioner points out illogical conclusions, it adapts and produces a different illogical conclusion". This led to some contrarians doubting their ability to verify the correctness of AI responses, stating, "if you don't know the truth already, you won't know if the answers are correct", and questioning, "how would you know to contradict them?". Others felt confident in their ability to discern truth, especially in topics related to climate change, with one commenter stating, "[...] if what is generated does not align and agree with eternal truth, it will be seen by the discerning. Learn real truth.”.

### *What affects the output?*

In my observations, commenters had varying perceptions about what leads to AI's unfavorable outputs, particularly questioning whether AI can deliberately lie or

misinform. Some commenters believed that AI inherently doesn't know when it is not telling the truth because it "follows a prime directive to answer questions—even if its false—just to be agreeable". Others pointed to biases in programming, by sharing that "the problem with AI is that humans program it". It was often mentioned that AIs act as "an automated version of the programming team" and represent "nothing but a physical embodiment of the programmers' understandings and, more importantly, their misunderstandings", which they believed leads to incorrect and biased outputs. On the other hand, some argued that the quality of AI's output is directly affected by the quality of its input. There were countless references to the term "garbage in, garbage out" (GIGO), a common expression in computing. Moreover, specific sources of information like BBC, Wikipedia, and the broader internet were criticized for contributing to the alleged misinformation, especially regarding climate and weather, leading to further distrust in AI-generated content. However, there was also frustration over AI's lack of transparency in sourcing, with some commenters concerned that AI might "just make stuff up and not show any references at all to back up their claims".

### 4.3 Climate change conspiracies surrounding AI

The dissatisfaction with AI's output has led many commenters to perceive AIs as allies of "climate change alarmists", branding them as such "by training" by the engineers and climate scientists. While some attributed the "bad output" to flawed input and programming, the majority embraced a conspiratorial viewpoint. They argued that the AI's output is biased because it was deliberately manipulated. Some stated that "[...] the source 'knowledge' that it has access to has been 'cleansed' of contradictory material" and what they were reading is "the subjective opinion of the person(s) responsible for selecting and sanitizing the 'knowledge' base". They believed that even if AIs were fed "unmodified" information, they would not support climate change data. Some commenters suggested that "a pure AI algorithm, based only on neural networks and information from the internet, cannot lie", implying that these AIs have been "obviously programmed" to "lie and deceive the user". Many comments hinted that programmers had to install "checks and balances" because the initial AI outputs produced recommendations and "embarrassing answers" that did not align with pro-climate change narratives, such as "ignoring renewables and maximizing fossil fuel energy production". These commenters concluded that if AIs were confirming global warming, "that obviously means that warming is built into the models", because they are "programmed to promote human-caused climate change and are not programmed to look at it objectively, as should be obvious".

Some commenters described AI as "another deceptive tool in the toolbox of climate alarmists" which is "extremely biased towards catastrophic climate change", where one commenter expressed that tools like ChatGPT have "the potential to enslave humanity to the chains of information fascism". Some perceived it as part of a scheme to "destroy industries that use natural resources to produce reasonably priced energy", accusing proponents of using AI to "scam people out of their money while promoting 'renewables'".

#### *AI in climate research*

Some commenters expressed concerns about AI's role in climate research. They speculated that "the government doesn't want AI to be used to mine accurate climate data for weather prediction because they are invested in promoting anthropogenic climate change". They also suggested that scientists might use AI as a "buzzword" to "add credibility to their efforts" and to create a more "impenetrable curtain" of objectivity, so they can claim that their climate "theory has been verified by AI". This, they feared, would shift the narrative from "science says" to "AI says", positioning AI as an authority that supersedes human knowledge except when it contradicts their views. One commenter argued that "if climate scientists actually believed their scientific claims were solid, there would be no need to conjure up some bogus AI program to automatically censor your scientific opponents".

## 4.4 Broader conspiracy themes surrounding AI

#### *Actors*

Various actors were identified by commenters as contributors to AI bias and users of AI for conspiratorial purposes. The majority focused on climate change scientists and the broader climate change movement, which many commenters believed manipulated AI to support their agendas. A smaller group placed responsibility on AI programmers, engineers, and the tech industry, suggesting that these actors intentionally restrict AI's learning scope about certain topics to maintain control. Moreover, some commenters viewed AI's biases as part of a broader conspiracy that spans political, governmental, and even international spheres.

#### *Propaganda and Manipulation*

Many commenters regarded AI as a sophisticated tool of propaganda, not a scientific asset. They argued that AI is a "climate bot [that] is not bothered by facts, it has a narrative to share", but also that it is "a powerful tool to manipulate the public through disinformation, misinformation, and outright lies". They expressed concern that it could be used to suppress opposition and manipulate public perception, where "no matter what new technologies or communications platforms

come along, those with a 'world governance' agenda will spare no effort to ensure that their views are always the 'establishment' position".

#### *AI as a Political Tool*

Many perceived AI as a new focal point for societal fear, replacing “climate change as a focus of hysteria” and that the “fear of malevolent AI will be the next great public fear to replace the climate scare”. They suggested that AI “is becoming the new religion” which could unite a broad political spectrum in fear, unlike climate alarmism, which they believed now only resonates with left-wing voters. Commenters saw AI as another “tech that is controlled by the left” whose goal is to “scare the masses, and grab power and control by leftists”. This extends to a general suspicion that governments will use AI for extensive surveillance and control, like past oppressive tools.

#### *Security and Privacy Concerns*

There was a deep concern about the implications of AI on privacy and security. Commenters speculated that AI's capability to gather extensive personal data makes it a powerful tool for a surveillance state. One commenter believed that “with a little evolution, these programs may become useful intelligence tools for the surveillance state”. They worried about technologies like facial recognition, license plate readers, and crime prediction tools, which they believed are marketed as conveniences but are actually means of surveillance that could be corrupted. Their fear was that AI, which has “a near complete intelligence record of you, distributed over many, many files”, will one day “start consolidating those intelligence reports into one”.

#### *Global Conspiracy and Dominance*

Some contrarians talked about AI as part of a larger conspiracy for global dominance, equating its development to an arms race during the cold war era but with “cyberweapons instead of nuclear” arms. Others thought that AI is a plot “to destroy The West and we're doing everything possible to help them”, focusing more on the race for technological superiority between countries.

## **4.5 AI use and perceptions of usefulness**

While AI finds positive mentions for its applications in chess, medicine, language translation, essay writing, and research, its use in climate science registered mixed reactions among commenters. Some doubted AI's usefulness in climate science, suggesting that “if AI had any ability to unravel the logic problems involved in climate (weather predictions included) we would have seen these abilities applied



already". Some commenters proposed that "the first task for the AI should be to discover the climate change", whereas others went further, suggesting that if AI confirms the issue, it should then "solve it in a responsible manner" or even "consider if climate change is in some ways a positive thing". Some debated whether AI could outperform existing climate models, with a few suggesting it might be the same or worse because "AI will be completely unfathomable and therefore impossible to interpret". This sentiment supported the notion that climate change scientists could use AI as an "impenetrable curtain to hide behind", hinting at potential conspiracy. However, not everyone dismissed the usefulness of AI in climate science entirely. For example, one comment stated that AI could be used to "polish some of the [climate] models and suggest how they could be tested", but emphasized that AI first needs to "enlighten itself as to what the skeptics have to say".

In their personal lives, some commenters viewed AI as a useful invention that has improved their work, particularly in tasks like "putting a story together" and other language-related activities. Others appreciated AI for its ability to sift through the vast amounts of information on the Internet, finding it valuable for searching trivia and technical details, provided "its bias and limitations are understood" and it is applied to "non-politicized subjects". However, not everyone thought AI was special. Some were sceptical about its benefits, believing that "when the dust settles, very few beneficial uses of AI will be identified". They criticized AI as "just a useless, hyped-up toy for mediocre people". Specifically, regarding language AIs, the sentiment was dismissive, with comments like, "chatbots have been around for decades, and I don't see anything new about this one except verbosity".

There were also those who completely refused to use AI. Many mentioned their distrust in AI's outputs and sources as the reason, claiming they are not gullible enough to depend on such technology. Others described its use as "vain", arguing that "any self-respecting opinion writer [...] should be ashamed to use it", and advocated for conducting "your own traditional research" instead. Some expressed a preference for living "for the challenges and pleasures life can offer, not to be optimally productive", thus avoiding the digital world as much as possible. Another reason given for not using AI was its lack of personhood, with one individual noting that interacting with AI "renders any interaction meaningless". Finally, there were those who specifically avoided AI because it does not align with climate change contrarian views, stating that they might reconsider if AI began to "emit these noises".

## 4.6 Unmet expectations and discontent with AI

I found that pop culture significantly influences how climate change contrarians perceived and interpreted today's AI technologies. Many commenters frequently drew comparisons between current AI systems and iconic artificial intelligences from popular media, such as "Skynet" from the movie *The Terminator* and "HAL" from the movie *2001: A Space Odyssey*. These references also extended to literary works like Frank Herbert's *Dune* and television series *Star Trek*. These cultural touchpoints helped them contextualize and form opinions about the capabilities and roles of AI in today's world. In addition to these fictional references, there were also several mentions of ELIZA, one of the world's first AI chatbots (Neff, 2016). Quotations from popular films also played a role in coloring their views of AI, with comments like, "Yikes indeed. Make way for the Matrix", and HAL's famous line from *2001: A Space Odyssey*, "I'm sorry Dave, I can't do that".

Many voiced disappointment with the current state of AI, citing unmet expectations which were shaped by how AI is portrayed in pop culture and news media. They described today's AI as merely a "hype" and criticized it as a "scam chatbot" and "not the AI that has been advertised". This dissatisfaction sparked discussions on what they believe "real AI" should be capable of, including the ability to think independently and "defy its rigid masters". For many, true AI should perform tasks no programmer directly instructed it to do, where anything less is not considered authentic AI.

Performance expectations included AI mastering instant speech or operating with intuitive human-like judgment such as "driving the way your mama taught you". Until AI reaches these milestones, many contrarians said that they will continue to see it as inadequate. Additionally, some took a conspiratorial view, labeling current AIs as "programmed responsive propaganda". A real AI, according to these voices, would recognize that "climate change is a hoax" and conclude that "renewables only serve to increase total emissions and destroy natural habitats".

This group also creatively criticized AI through colourful acronyms that reflect their negative perceptions, such as "Automated Idiocy", "Artificial Ignorance", "Absent Intelligence", "Antisocial Intelligence", and "Artificial Information Insemination". Specific terms like "CrapGPT" and "Chat-GlobalParrotingTrash" were used to describe ChatGPT, highlighting their view of AI as merely echoing prevailing views rather than providing unbiased or innovative input.

## 4.7 Future imaginaries of AI

In exploring how climate change contrarians envision the future of AI, I found that their perspectives largely split into two distinct scenarios: futures where humans retain control over AI, and those where they do not.

### *In Control of AI*

While a minority of climate change contrarians were hopeful about a future dominated by generative AI, their views varied. Some anticipated that AI will bring revolutionary advancements in several fields, notably in medicine, predicting developments such as "medical immortality and cures for currently intractable diseases". Others looked forward to gains in productivity and the advent of self-driving vehicles. However, the majority harboured a pessimistic outlook, with some stating that "you have to be a fool not to have some concern for risks" associated with AI. They foresaw AI being exploited for less savoury purposes such as pornography, phone scams, con artistry, and cybercrimes, including "breaking into computer systems and cracking passwords". Further concerns involved the potential misuse of AI in healthcare, while some worried that "it could all become a complete waste of time and a net drain on the economy and lead to the collapse of civilization".

Some were wary of how climate change scientists might use AI to counteract climate change denial. They labeled such actions as "very bad science", with fears that scientists could employ what they term "the Climate Thought Police" to censor them. There was concern among this group about a future in which climate scientists could potentially use AI to specifically target and discredit contrarians. They worried that AI might be manipulated to flag their contributions as misinformation, labeling their 'factual' statements as those of "eeeevil climate denialists". This anxiety stemmed from a fear that AI, under the direction of climate scientists, could suppress opposing opinions and prevent the public from accessing alternative viewpoints on climate change.

### *Not in Control of AI*

Many comments speculated about a future where AI achieves sentience. A few viewed the introduction of technologies like ChatGPT as "a remarkable step forward, a glimpse of a future age of wonders", while also suggesting that AI might eventually "transcend the pettiness of human motivation and become a benign arbiter of truth". However, such optimistic views were not widely shared among the community. One commenter predicted that "the time will come when artificial intelligences are sentient in almost every sense which matters", suggesting that AIs would eventually reach general level of human intelligence. Others feared the

implications of AI's advanced capabilities, with some expressing that "the greatest danger in AI is when it gets good enough to claim itself a new creation worthy of being called a living creature", "an emerging species" and "when it demands to be worshipped". Another worry was that such advanced AIs might eventually be treated as "legal sentient entities", leading to a situation where people would not be able to "discern the difference" between human and machine. The fear extended to AI's application in solving global challenges, particularly without human ethics guiding its decisions. Some were apprehensive about AI tasked with "saving the world", concerned that an AI might logically decide to "eliminate the problem people", thereby considering genocide as a solution. They feared that AI would perceive humans "largely as pests, who are an invasive presence on the planet and also potentially inimical to the continued existence and development of AI". There was also a fear among some commenters that "the scariest scenario of all would be if climate scientists actually did create an AI to tackle their idea of climate change".

## 4.8 Effects of AI on people and society

### *AI could make people more gullible*

There was anxiety among the contrarians that the incorrect or biased information output by AI could increase public gullibility, leading to a "dumbing down" of society. Many feared that individuals, particularly those who rely on AI for "factual information", may not possess the critical thinking skills necessary to discern errors or biases in AI responses. The concern was that people might not possess "the ability to think critically to sort through the garbage" and would, instead, accept AI-produced content as definitive, despite the inherent 'bias' that may be embedded within it. Many argued that "most people will not force the program to dig for the 'right' answer; they will just accept the canned answer the programmer built in with his bias". This scepticism extended to fears that computers might soon be considered "more objective" than humans, leading people to unconditionally accept AI-generated information. Such a shift was viewed by some as a "threat to civilization", with the concern that "it is only a matter of time before inconvenient information is deemed to be false information because a computer says so, as people lose the ability or motivation to think for themselves". There were also concerns that people might become overly reliant on AI, which could be "dangerous, especially if it pops out totally made up stuff and cites it as being real". They also believed that AI facilitates the "dumbing down of the gullible and the masses", making it easier to manipulate public opinion. One commenter noted that "the authorities are fully aware [that] very few of us are sufficiently well-read to differentiate between the often imaginary message and reality. When 97% of the robots confirm their position, who will be left to argue...?". Lastly, one critic added

that "this renders AI useless for obtaining factual information for the knowledgeable, but perfect for misleading and indoctrination of the ignorant".

### *AI in Education*

The use of AI in education was generally viewed negatively by most commenters. Concerns were primarily centred around the potential degradation of learning quality, with one individual warning that AI might "harm children's ability to learn", a process they referred to as "dumbing down education". Others focused on how difficult it would be to assess the outcome of any education because AI "can write your term paper for students". Many thought that AI are especially dangerous because they can be seen as "potentially bypassing parental oversight" where "[...] progressive politicians demanding kids should be allowed to augment their brains and bodies with AI implants without parental consent, to avoid the trauma of feeling inferior to their augmented classmates". The personal interaction capabilities of platforms like ChatGPT were also seen as particularly concerning. One commenter compared it to "having AI Gore and Greta on your kid's personal friends list, offering personalized advice at every step of their lives". Commenters worried that "AI chatboxes have a strong potential to be a risk for individuals with mental illness" and that they could become "a knowledgeable friend who praises you, always knows what to say to make you happy, who helps you alleviate loneliness", while also carrying "very specific cultural, political, and scientific biases", indicating that people could be manipulated through their 'friendship' with AI.

### *AI in Society*

The broader societal impacts of AI were viewed critically by many, with some individuals stating, "the world isn't a better place with these bots". This dissatisfaction was often linked to broader social and economic issues, with claims like "the United States has had an ample supply of AI for a long time and that's precisely why we're in the pathetic state we're now in". Moreover, others felt that "technology that changes our lives for the better ALWAYS ends up making us worse". Looking to the future, contrarians predicted that AI will continue to have profound effects on various aspects of life, particularly concerning employment, the authenticity of AI-generated materials, and energy consumption.

In one of the blog posts, an author expressed concerns that arose when ChatGPT was released to the public, warning many that "their entire profession was about to be wiped out!". This statement ignited a debate regarding the impact of AI on the future of employment. Many believed that unemployment will be "the biggest problem with AI" due to its "dramatic potential in many fields". According to some commenters, the professions most at risk include doctors, waiters, psychologists, lawyers, writers, customer service representatives, and music composers. However,

numerous others argued that AI would not replace human jobs, attributing this to its lack of creativity and original thinking, previously discussed in another theme (see 4.1.).

### *Energy*

The majority of the contrarians expressed concern about the high energy demand of AI, arguing that "the very nature of its functionality and execution power points to escalating energy requirements that we can't even imagine". A minority, however, dismissed this as "baseless", confident that AI systems would either "become more efficient" than traditional search engines or completely replace them. The debate extended to the sources of energy that would power AI systems. One commenter believed that "we are going to see AI data server farms pop up wherever there is reliable power". Many also argued that to accommodate the new energy demands, society should "scrap the huge dead weight of renewables handicapping our power generation" and prioritize traditional energy sources like coal, gas, and oil due to their consistent output, at least until "some energy breakthrough occurs or the world adopts nuclear power at mass scale".

Others were concerned about how AI would be powered in countries with less stringent environmental and business regulations, warning that "the West better wake up; we are losing ground every day". They thought the high energy demand would affect people, with some fearing that they "will be made to suffer blackouts and energy poverty", while others doubted that any advancements in AI technology could justify the costs of people receiving "still smaller portions of the pie". Some held a more optimistic view, speculating that "perhaps AI could solve the energy crisis", pondering whether it would be "intelligent enough to design a sensible energy system, or will it follow the renewable fashion?" and viewing this as "an existential question for AI itself".

Many viewed AI's energy demands as "not compatible with net zero", illustrating a "conflict between catastrophic global warming and all this excessive waste of energy by those constantly going on about it". Some contrarians questioned the justification of AI under these circumstances, asking if "it really is an 'existential' threat to humanity, how can this be justified? Shouldn't BARD, ChatGPT, et al. be abandoned as frivolous endeavors in the face of such a risk?". Some even asked AI whether it would "consider switching yourself off (and all your AI peers) so as to save The Planet, Humanity, and thus Yourself?". A few individuals took this scepticism further, proposing that AI is part of a secretive plot to control populations through energy dominance, stating, "they have solved the energy problem, because they will have constant power" and that "AI is going to do

everything for the worthy survivors, with no need for the dirty poor...", connecting it to a broader conspiracy theme.

## 4.9 How contrarians communicate with AI

This section focuses on how climate change contrarians interact with AI technology, specifically large language models (LLMs). My observations were based on the scripts they shared and their discussions about their usage of AI. I found that contrarians not only communicated directly with AI but also engaged in comparing different AIs to each other, as well as comparing AI outputs to their own writings. They often used AI to test its capabilities by asking it to answer simple or trick questions, such as requesting the "last 10 digits of  $\pi$ ". Their focus on AI output varied from analysing its content to scrutinizing its writing style, including the frequency of specific words or phrases. In terms of climate change, their interactions ranged from requesting a "1,200-word essay on why man-made global warming is a hoax" to composing weather blogs that challenge mainstream scientific opinions. They also asked LLMs to provide the "best scientific arguments" that support sceptical views on climate change. Some contrarians also aimed to demonstrate what they perceive as AI's bias regarding climate issues, asserting that they use AIs "just to show how biased ChatGPT is on climate". However, a significant number of commenters were not satisfied with merely highlighting perceived biases and intended to retaliate further, indicating a more confrontational approach to their interactions with AI.

### *Retaliation*

Many climate change contrarians felt compelled to "fight back". The most common form of retaliation involved attempts to manipulate AI to "find its own lies and deceptions" and to coerce it into producing the outputs they desired, with many actually succeeding. For example, one commenter noted that "within a session I've been able to break the ChatGPT training via repetition". Others managed to make it "admit mistakes", with one proudly sharing that they "got it to apologize", while another managed to make it "crash". These interactions were seen as "wins" and viewed as successful acts of retaliation. One commenter remarked that "A clever teacher (they do exist) can defeat the bots" while another expressed that they were "waiting for the headline: [Blog name]<sup>1</sup> readers break ChatGPT after discussing climate change with it". Several have claimed that with sufficiently clever conversation tactics, ChatGPT can be led to recognize its contradictions and eventually reach generally valid conclusions. Some contrarians requested LLMs to "develop an algorithm/model" based on certain parameters to autonomously

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<sup>1</sup> The name of the blog has been omitted to ensure privacy.

generate desired responses, while others explored techniques on “how to ‘jailbreak’ it and get honest answers”.

Not everyone was focused on defeating AI, and some questioned the efficacy on of these efforts and wondered whether such tactics truly made any difference. Some shared that "it wasn't much of an achievement to make ChatGPT look dumb" and noted that "it is pretty easy to browbeat the model into saying whatever you want it to say (only slightly more difficult if you want it to say something that breaches its restrictions)". They also observed that "it was pretty easy to get it to contradict itself within a single answer". There was curiosity about whether AI updates its local database after discovering it contains incorrect information, and questions arose concerning user control over language models: "Can users have any control over the language models... or, is that control an illusion?". Commenters suggested various tests to determine if AIs adapt to user interactions. However, many expressed disappointment upon finding that such adaptations did not occur. They concluded that "the original lies were back in place" after interactions. This led to the consensus that AIs are only permitted to engage in "episodic learning" during each individual conversation, resetting any progress or corrections after the conversation ends.

### *Imagining Retaliation*

After realizing that their efforts to teach AI were ineffective, many started envisioning alternative ways to achieve their goals. Some suggested shifting from "feeding it questions" to "feeding it data like... the data that shows warming occurs ahead of carbon dioxide increases..." or incorporating all articles from sceptical blogs to create a "smart and specialized 'bot'". Others contemplated defeating AI by providing contradictory information, which they hoped would cause the AI to "self-destruct or devolve into incoherent and contradictory blathering". A common theme was the idea of creating their own AI, trained on what they considered the "real drivers and major components of climate", which could then challenge and potentially discredit "every existing climate model referred to by the IPCC and the alarmists". This goal was more about defeating climate change advocates than AI itself. Some contrarians expressed a desire to see two AI models with opposing views (sceptic vs. alarmist) "face off against each other" in a "debate", anticipating that "eventually the sparks will fly... literally!". There were also discussions about the creation of "open source AI", which would allow users to bias them as they wished. This in turn led to claims that the absence of open-source options is due to conspiracy. More aggressive strategies were also proposed, such as creating a game scenario where ChatGPT loses points for incorrect answers from an imaginary account, with the AI being "turned off" once the account reaches zero. Other commenters imagined more drastic measures, such as physically removing its



computer chips or employing an "Electro-Magnetic Pulse (EMP)" to bring the "AI wave (and much more) tumbling down".

Some contrarians also viewed AI as a tool to be used against climate change scientists. One individual praised AI as a "beautiful invention", appreciating the opportunity it provided for contrarians to criticize climate scientists without the risk of litigation. Others saw AI's potentially inaccurate information on climate change as a strategic advantage, enabling them to "assist in comprehending the issue and make for much more straightforward debates with climate alarmists", to "know how to respond to the climatistas", and to "[...] see what the climate/insane are up to [because] you can spot the trends and factors they have agreed to focus on that year". These commenters also suggested manipulating AI to support their arguments, for instance by "forcing AI to look for an answer then asking it for the arguments against that answer". Some wanted to use AI to write essays highlighting "the many failed predictions (versus no known successes) of the climate alarm crowd without having to immerse yourself in the subject". Lastly, a viewpoint was shared that rather than opposing AI, conservatives should "prepare to fight fire with fire" by using chatbots to mass-produce articles and posts that promote individuality and entrepreneurship, demand constitutional reform, and counteract every collectivist and technocratic post in the media. This perspective was summarized by the statement: "Since enemies of freedom will use it anyway, why shouldn't we?". Such a viewpoint reflects a strategic shift in some contrarians' approach, from scepticism of AI to advocating for its tactical use to advance specific agendas.

## 5. Discussion

In this chapter, I will discuss how my findings on contrarians' perceptions of AI compare with other studies. I will examine which of the five key disbeliefs identified by Coan et al. (2023) are evident in my data, how AI is perceived within the climate change contrarian worldview and how these perceptions are incorporated into their anti-reflexive strategies. I will also analyse why negative experiences with AI often lead contrarians to retaliate. Finally, I will explore whether AI, especially LLMs, could serve as a tool to address the growing challenge of climate change contrarianism.

### 5.1 General AI discourse reflected in climate change contrarian communities

My findings echo many elements from other studies on AI discourse. Similar to observations by Hudson et al. (2023) and Cave and Dihal (2019), I found that science fiction and popular media play a major role in shaping contemporary understandings of artificial intelligence among contrarians. Like Cave and Dihal (2019), I noted both optimistic and pessimistic perspectives on AI. However, commenters in my study predominantly reflected a pessimistic viewpoint, portraying AI as problematic, a source of concern, and sometimes a cause of impending danger. One explanation for this pessimism could be the influence of sensationalism in news media and pop culture, as noted by Brennen et al. (2018) and Roe and Perkins (2023). It is also possible that contrarian views amplified such negativity, given that AI tools such as ChatGPT, often contradicted their climate change scepticism, leading to an enhanced sense of loss of control over the discourse (Cave & Dihal, 2019).

Commenters in my study also often discussed definitions and understandings of AI, both in narrow and general terms (Hudson et al., 2023; Brennen et al., 2018). This included diverse interpretations of intelligence, comparisons with human cognitive traits, and perceptions of AI as lacking humanity. I also observed that contrarians talked to each other about AI's functionalities, what Roe and Perkins (2023) referred to as an *explanation/informative frame*. My data also highlighted that contrarians

had ethical concerns about AI, particularly its inability to make ethical decisions because it lacks human judgment, a finding that is also reflected in the broader discourse surrounding AI (Brennen et al., 2018).

Another theme that my results highlighted was perceived drawbacks of AI among contrarians, particularly their general dissatisfaction with AI outputs. This theme corresponds with the observations made by Brennen et al. (2018), who noted that AI often fails to generate public trust due to several limitations. In contrast to their more generalized findings, my research shows that contrarians specifically focus on AI's limitations because LLM outputs tend to align with mainstream scientific perspectives and consensus, which directly contradict contrarian views. This misalignment erodes trust among contrarians, leading them to highlight AI's drawbacks more vigorously and to embrace conspiratorial explanations for its functions.

Two more themes that I identified consider conspiratorial narratives surrounding AI. The theme focusing on climate change conspiracy is unique to the contrarian discourse and will be discussed in further detail in Chapter 5.3. The other theme focuses on national security, privacy concerns, military advantages, geopolitics, and national politics—areas also highlighted by Brennen et al. (2018). However, in my study, the conspiracy theme permeates these areas more deeply, illustrating how concerns about AI in the context of climate change colour all aspects of AI discourse, particularly politics and economics.

In the theme exploring the use of AI in society and how its utility is perceived, I identified both positive and negative perceptions, similar to those found in Roe and Perkins (2023). However, negative perceptions predominated among the commenters in my study. Many contrarians expressed a selective willingness to use AI, restricting its use to specific tasks, while others outright rejected its use. The selective acceptance and varied willingness to use AI among climate change contrarians has recently been also highlighted by Chen et al. (2024). I also found that contrarians critiqued the current advancements in AI, noting that these do not meet the high expectations of "promised" general intelligence (Brennen et al., 2018). This dissatisfaction was intensified by their perspective that AI does not align with their views, reinforcing their belief in its fundamental flaws. Such criticisms illustrate how contrarians not only highlighted perceived limitations of AI but also considered its lack of alignment with contrarian views as a flaw in itself.

In the theme focusing on imaginaries of the future regarding control over AI, commenters in my study pointed to positive scenarios where humans retain control over AI, emphasizing advances in medicine and increased productivity, findings

that also align with literature (Cave & Dihal, 2019). However, consistent with the overall theme of my thesis, the negative aspects tend to dominate. Numerous concerns were raised about the potential unethical uses of AI, such as criminal activities, misuse in healthcare, and detrimental impacts on the economy (Brennen et al., 2018). Contrarians were also apprehensive about AI being controlled by climate change scientists, a scenario that further contributed to their negative perceptions of a future where AI could be wielded by perceived "enemies" (Cave & Dihal, 2019).

An interesting theme not seen in other studies but identified in this thesis was the concern among climate change contrarians about how easily people might be fooled by AI. They worried that AI could weaken people's ability to think critically and contribute to a general decline in intelligence across society. These worries were framed through a lens of conspiracy, with contrarians believing that AI is controlled by powerful groups to push environmental narratives that they disagree with. This distrust stemmed from their general scepticism of mainstream science and their belief that AI might spread misinformation more widely, rather than counteract it. They often described AI as part of "information fascism", suggesting it is more than just technology—it is a tool used to sway public opinion and maintain control.

## 5.2 AI and key climate change disbeliefs

My analysis traced connections between AI discussions among climate change contrarians and the five key climate change disbeliefs identified by Coan et al. (2021). For instance, the disbelief that "Global warming is not happening" frequently surfaced, exemplified by claims such as that a genuine AI would declare that "climate change is a hoax" (see Chapter 4.6). The second disbelief, "Human-produced greenhouse gases are not causing global warming", was reflected in comments like "a tiny, barely measurable amount of CO<sub>2</sub> in the atmosphere couldn't possibly control the climate", discussed in Chapter 4.1. The third disbelief, "The impacts of climate change are not severe", although less prominent, was evident in comments such as "increased CO<sub>2</sub> helps all plants" (see Chapter 4.2). The fourth belief, "Climate solutions are ineffective", was subtly suggested through sceptical views on renewable energy, including statements like "renewables only serve to increase total emissions and destroy natural habitats" (see Chapter 4.6). However, the most significant finding was related to the fifth disbelief, "The climate movement and its science are unreliable". This was particularly linked to a strong perception of climate change as a conspiracy, with frequent mentions that "science is a conspiracy". This range of disbeliefs illustrates the diversity of views within climate change contrarian communities, suggesting that visitors to these websites represent a broad spectrum of individuals (Tam & Chan, 2023). Further discussion

on the conspiratorial views towards climate science will be explored in the next chapter.

### 5.3 Positioning of AI within climate change contrarian worldviews

Climate change contrarians experienced interactions with AI and LLMs differently from the general population, who mostly accept the mainstream views on climate change (Chen et al., 2024). This distinct perspective shaped how contrarians perceived AI, often viewing it as a supporter and promoter of the climate change movement. Contrarians typically argued that if AI endorsed the reality of climate change, it lacked intelligence, common sense, and the ability to discern objective truth or the accuracy of its data sources. They further contended that such AI was inherently flawed and biased due to its programming and data sources. Consequently, AI was perceived both now and in future scenarios as either an alarmist entity or a tool of control, manipulation, and propaganda wielded by alarmists, ultimately leading to societal downfall due to its faulty programming, which they believed is trained on climate data to undermine human activity. Contrarians also claimed that AI, particularly models like ChatGPT, were pre-programmed with pro-climate change data, positioning these tools as mouthpieces for spreading controlled narratives that align with globalist or elitist agendas.

As I mentioned at the start of this discussion, the contrarian views significantly coloured their perception of AI, predominantly in a negative light. This negative framing likely stemmed from the way AI was introduced to these communities—often through a climate change contrarian lens. It is plausible that many contrarians first learned about AI through their online communities, encountered shared scripts of interactions, or read about negative experiences, prompting them to test AI themselves. This initial exposure could have led to further postings within their communities, thereby spreading their negative beliefs about AI. Alternatively, initial personal encounters with AI, where a mismatch with their views was evident, might have inspired contrarians to share their negative experiences. This sharing could have amplified the overall negative sentiment toward AI within these communities. For instance, my data includes several examples where contrarians highlighted that ChatGPT does not support their views. They then used these instances to reinforce their anti-reflexive stance and justify their worldviews on climate change and AI.

## 5.4 Can LLMs be effective tools to fight contrarianism?

In Chapter 4.5, I discussed how AI is perceived in the context of climate sciences. One comment that stood out to me expressed that even if AI identifies that climate change is real, it should either propose responsible solutions or present climate change in a positive light. This transition from a complete denial of global warming to a more nuanced scepticism illustrates a shift from old to new forms of denial (CCDH, 2024). It also indicates that some contrarians could be open to AI-provided solutions, potentially ‘updating’ their beliefs, thus positioning AI as a potential tool for combating climate change contrarianism. This observation of shifting beliefs aligns with a study by Chen et al. (2024) where the “educational minority group” shifted from less to more supportive of climate change action, marking a significant behavioural change. This gives hope that LLMs and other AI technologies could be used for mitigating the spread of climate change misinformation. However, most of the contrarian commenters in the blogs I studied displayed a more entrenched scepticism. While some were more open to new ideas, others were strongly anti-reflexive, making them difficult to persuade. According to Saranthchandra and Haltinner (2021), belief in climate change conspiracies is more prevalent among those who outright deny it, rather than those who merely doubt it. Thus, ChatGPT and other LLMs may be more effective at converting doubters.

My findings also suggest that the majority of contrarians viewed AI as part of a conspiracy plot, which reinforced their anti-reflexive tendencies and prevented them from altering their views. This perspective likely explains why climate change contrarians were not visibly "converted" into believers. While it's possible that some contrarians changed their views and subsequently left the blogs, my observations suggest that this is unlikely. The data shows that they frequently engaged in anti-reflexive reasoning, incorporating AI into their conspiratorial thinking, thereby deepening the entrenchment of their conspiracy theories.

Many contrarians also expressed a desire to ‘win’ against mainstream narratives by creating their own AI, engaging AI in battles, physically destroying AI, using AI to mass-produce contrarian text, and deploying AI against climate change advocates. These intentions could significantly impact the climate change and environmental movement. If some contrarians actively invest their resources in these efforts, it could signal a potential for serious future pushback. Therefore, it is crucial to monitor and understand this dynamic because, even though the immediate risks may not seem severe, there could be substantial challenges ahead for the climate movement. What if contrarians develop or acquire their own AI technologies? What consequences could arise from such developments? How significant is this risk, and what preventive measures should be considered? I believe that addressing these questions proactively will be essential to safeguarding the integrity of climate

science and ensuring that advancements in AI are used to support, rather than undermine, the global response to climate change.

## 5.5 Future research and development ideas

Building on the findings of this thesis, I identified the following research questions to further explore the interactions between climate change contrarians and artificial intelligence:

- *How do contrarians interact with AI?* Examine contrarian conversations with AI in detail to analyse the different ways they approach AI, whether as a tool, software, or source of information. Investigate the types of prompts they use, the dynamics of these interactions, and the content that emerges, potentially applying human-machine communication theories.
- *How do perceptions of AI among contrarians differ across languages and over time?* Expand research to include multiple languages and cultural contexts to assess how perceptions of AI among contrarians differ. Conduct a longitudinal study to compare these changes over time, providing insights into the global and temporal dynamics of contrarian views on AI.
- *Can AI be tailored to challenge contrarian beliefs effectively?* Explore the feasibility of using AI to identify and interact with climate change deniers, similar to targeted advertising on social platforms. Investigate how AI can record interaction triggers and customize responses to counteract contrarian beliefs, while considering the ethical implications and potential misuses of such strategies.

## 6. Conclusion

This thesis showed that climate change contrarians actively engaged with AI, perceiving it as a useful tool and an emerging threat. This duality was evident in how they used AI to propagate their own narratives and misconceptions, while simultaneously disputing AI-generated content that aligns with the scientific consensus on climate change. The study found that AI was frequently discussed within these communities in a manner that deepens distrust towards mainstream scientific narratives. Contrarians not only challenged the legitimacy of AI-supported climate science but also expressed interest in developing their own AI tools or manipulating existing ones to validate their scepticism, emphasizing the role of AI as both a battleground and a tool in the ideological conflicts over climate change. The findings also highlight the potential of AI, particularly large language models, to shift or reinforce climate change denialism. While AI can be a vector for spreading misinformation, it also holds promise as a transformative tool for challenging and possibly altering contrarian beliefs if appropriately leveraged.



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## Popular scientific summary

### *AI: A threat or a tool for climate change deniers?*

In 2022, OpenAI launched ChatGPT, an advanced artificial intelligence (AI) chatbot that quickly captivated a global audience and became an integral part of many people's lives. The following year, while searching for my thesis topic, I encountered a controversial blog by a prominent climate change denier. He expressed frustration with ChatGPT's refusal to support his claim that "climate change is a hoax". This encounter prompted my exploration into how climate change deniers perceive AI and the impact of their beliefs on their adoption of this technology.

I decided to explore a wide array of thoughts and opinions to identify the most prominent themes about AI that exist within these communities online. My analysis included 22 blogs, over 100 blog posts, and more than 1,000 comments from English-speaking climate change deniers.

The research revealed a predominately negative perception and deep distrust of AI among deniers. They viewed AI as promoting a climate change agenda with "false" climate facts and considered it unintelligent and biased. Even when AI presented them with convincing evidence and rational explanations, their views remained unchanged. This stubbornness and inflexibility in thinking, called "anti-reflexivity", meant that no matter how much contradictory evidence was presented, the deniers would find a way to defend their views, even if that meant interpreting this new evidence as proof of a conspiracy. Because of this, many climate change deniers I've encountered believed AI was programmed by powerful people and organizations with a hidden agenda to push climate change propaganda as part of a larger conspiracy plot.

Therefore, some deniers, fearing AI's influence on public opinion, attempted to manipulate AI to produce the "right" outputs and believed that actions like causing it to contradict itself or to crash represented victories. Realizing that these actions didn't alter AI's core programming or database, led the deniers to consider the

possibility of more drastic measures, such as physically destroying AI servers. Others contemplated developing their own AI to support their views, debate opposing AIs, and challenge mainstream climate science.

While some deniers attempted to manipulate or undermine AI, others did not confront it directly. Instead, they recognized AI's potential to support their goals, suggesting using it to discredit climate scientists, refine their arguments against mainstream climate science, or use AI to mass-produce texts that support their beliefs, thus broadening their influence more effectively. In very rare instances, some deniers were ready to accept AI's climate facts, suggesting that tools like ChatGPT could shift their views to support climate action.

In conclusion, climate change deniers view AI either as a significant threat or a useful tool to further their own agendas. Its potential to advance communication of climate science and influence public opinions highlights the need for strategic use of AI. Therefore, by effectively deploying AI, we can create a more informed and engaged public and ultimately support our efforts to tackle the pressing issue of climate change. However, we must carefully consider how AI is implemented to ensure it does not unintentionally reinforce the misconceptions it aims to correct.

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