

**Threats provided by artificial intelligence that could disrupt the democratic
system**

Scientific paper

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Abstract

This research paper examines the potential consequences of AI technology on democratic systems. The study focuses on two main areas: the weakening of the media and the emergence of "smart dictatorship." The paper examines the ways in which AI can be used to supervise, manipulate, and frustrate the media, thereby weakening its role as a check on government and corporate power. The study also explores how AI technology can be used to create an "omnidirectional monitoring" society, where individuals are constantly monitored and controlled through the use of "panopticon" techniques and "social bots". This can lead to the emergence of a "post-democratic" society, characterized by growing inequality, dehumanization, and the manipulation of information on online media platforms. The research methodology adopted in the study is qualitative, using expert interviews with three experts who discussed the overall use of AI and its disruptive effects on democracy, such as the creation of fake news, filter bubbles, and algorithm bias. In conclusion, this research highlights the need for increased awareness and regulation of AI technology to ensure its responsible use and to protect democratic values.

Keywords: artificial intelligence, ai, democracy, democratic system, disruption

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1. Introduction

The discussion on how far artificial intelligence can and should go is a hotly debated topic. We all know the dystopian movies and fantasies that foresee wars between humanity and robots. That is something the future will show. Depending on how we work with AI and how many precautionary measures we take, AI can become one of humanity's biggest achievements or mistakes. As AI is developing rapidly, it is important to keep an eye on the threats that AI could bring (Brundage *et al.*, 2018, p. 3). The impact of future AI's could be enormous. That's why it is relevant to take the threats of AI into consideration when creating and optimizing AI.

The following paper evaluates the threats that AI could bring to democracy. Democracy is the functional foundation of many countries. Therefore, a threat could lead to a disruptive event if the foundation is damaged. To evaluate the possible impacts of the threats, relevant literatures were reviewed, and expert's interviews were conducted. This paper does not claim to identify every possible threat of AI to democracy that may exist. Instead, we focus on disruptive causes that AI might have by evaluating various threats.

2. Methodology

In order to identify disruptive threats to democracy presented by AI, we choose a qualitative approach. In this paper, qualitative interviews were conducted to answer the research question. Since there is no previous research about the disruptive threats of AI to democracy that could be used as a methodological approach, the interview guide was developed inductively. Based on the inductive approach we conducted semi structured interviews to be able to answer some questions in more detail and get more information.

Three experts were interviewed independently about the disruptive threats of AI to democracy. The interviews took 15 to 20 minutes and were recorded to properly analyze them. Since we don't have the legal rights to use the expert names in this paper the experts will be referred to as "Expert 1", "Expert 2" and "Expert 3". The interview guide was structured in a way that we first asked the expert about threats of AI to democracy they identify. Afterwards we showed them a table with a short summary of threats we thematized in our research and questioned them about it. That way we got the experts' opinion on threats they identified without being biased with the threats we found. Subsequently, the interviews were transcribed and analyzed.

The first expert is a senior researcher whose research is about artificial intelligence and ethics. In addition, he also has a background in analytics, especially in data mining. The second expert is a professor for social science and statistical learning. His research concentrates on the impact of machine learning for humans. The last expert is an innovation consultant and project manager, whose organization supports local companies in implementing AI technologies by assisting in applying for research funding and also connecting local companies with other companies or universities that can enable cooperation. Interviews were fairly short but still comprehensive.

3. Artificial intelligence in the context of democracy

Artificial intelligence is a form of a system which conducts human-like processes that exhibit intelligent behavior. AI is characterized by the fact that it is able to learn by previous experiences and improve their performance based on the learnings (115th Congress, 2017-2018). These characteristics make AI a valuable asset to improve systems and processes. In addition to learning from experience and improving performance, the speed at which AI works is an important asset. AI that outperforms humans in terms of speed can be used to make processes significantly more efficient (Bostrom, 2014, pp. 77–78). As with anything else in the world, positive innovations can be abused to cause negative impacts or consequences. This paper concentrates on the threats that the use of AI could have on democracy. There are a lot of different definitions for democracy that are partly the same. For this paper we decided on the following definition:

„Democracy is a constitutional kind of rule, which allows the self-determination of all citizens (in the sense of the sovereignty of the people) by guaranteeing their decisive participation in free and fair elections (of the main political representatives) and/or in political decisions (referendum).” (Lauth, 2015, p. 8)

In a democratic system the citizens can influence the political process and therefore the control of power. Citizens participation in a democratic system can be defined by the three dimensions: freedom, political equality, and political control. Freedom as the first dimension stands for the free self-determination in political decisions and behavior. Political equality is the fair and equal treatment of all citizens by the state. Furthermore, all citizens can equally participate in formal institutions based on the democratic process. Lastly, political control is exerted by citizens who elect formal organizations

of the state. Also, the judicial system run by the civil society contributes to a functional democratic system (Lauth, 2015, pp. 8–9). As those three dimensions are fundamental parts of democracy, it becomes a threat to democracy when one or more of these dimensions are under attack or in danger. That's why our further research identifies threats of AI that could possibly become a danger to democracy and all three dimensions.

Another important principle of democracy is the division of powers. This principle states that democracy is divided into legislative power, executive power, and judicial power. These three powers are meant to control each other and limit the power of the state (Deutscher Bundestag, 2023). The division of powers becomes an important aspect of this paper when you look at where the media and therefore AI, can influence these powers.

4. Previous research

To determine the impact of AI on democracy, it is essential to look at where AI might influence the democratic system. Considering the division of powers, AI poses a threat to the legislative power, since its build on the publicly elected representatives. In elections for the representative politicians, the mass media is a crucial component used by political parties. For citizens the election of representatives is a fundamental democratic element, which allows the citizens to actively impact the political decision making. The media is used to advertise political parties and also inform the citizens of the election programs and the representatives. Furthermore, media can be used by citizen to criticize and discuss political parties and decisions. With this reach and tasks, the media represents an important role in the electoral process (Lange and Ward, 2004, pp. 9–10).

4.1. Weakening of the media

The media is an area where AI takes place in many online processes. That's why AI can contribute to the weakening of the media, which also can threaten democracy. At the beginning of the digital age, the processes started off being quite harmless. The development and use of AI seemed to be a great advancement for users with no disadvantages or threats at all. It started with search engines that provided individual suggestions for users and online platforms that presented personalized product suggestions. Since then, a lot has changed. Algorithms today know a lot about ourselves (Helbing *et al.*, 2019, p. 75). Not only do we give our data willingly through

social media profiles, the algorithm also tracks a lot of data about ourselves that the majority don't know about. The massive amount of data and the lack of transparency transform online media into a potential threat for democracy.

Kaplan (2020, pp. 153–156) identified three areas where AI takes place in the media which have the potential to threaten democracy: supervision, manipulation, and frustration.

Supervision. Surveillance and control of humans is a threat to democracy, introduced through the use of AI and big data. Governments could limit citizens freedom by abusing AI in terms of supervision (Kaplan, 2020, p. 153). Supervising and controlling citizens are far from fiction and predictions about the future. China is the best example for AI usage to supervise and control their citizens. In China the citizens get an individual social credit score. This score is calculated by collecting data of each individual citizen. These data include monitoring and tracking of finances, tax, health records, purchasing behavior, social media activities and information from facial recognition. The approximately 200 million surveillance cameras in China track citizens' behaviors like passing a red light or dropping trash (Marr, 2019). But China goes even further because the score calculated is not only influenced by behavior but also affected by the score of friends and acquaintances. Considering this level of supervision and controlling that kind of AI usage would threaten democracy in many ways. Citizens' decisions in their personal life but also decisions like voting wouldn't be free anymore, since a wrong choice from the perspective of the government would lead to a decreasing score. Furthermore, the tracking of online activities would significantly decrease the citizens dignity and privacy. Also, algorithms are not free of mistakes because they can only work with the data they get. That's why fairness and justice can't simply be replaced with an algorithm (Helbing *et al.*, 2019, p. 85).

Manipulation. Kaplan (2020, pp. 154–155) recognized AI powered social media as a threat when abused. He distinguished the social media algorithms from targeted manipulation. Social media algorithms use behavioral data to provide content best suited for the user. With that, the social media algorithm can create filter bubbles, where the users only see content based on the previous behavior and actions. Although this mode of operation is not a targeted manipulation, it still influences the user's perception of different topics.

"[...] at some point you will get the impression that everybody else thinks as you do, as you will not be exposed to other opinions." (Kaplan, 2020, p. 154)

On the other hand, there is also the threat of intentional and targeted manipulation through fake news. Fake news are false or misleading claims, which are presented as news (Gelfert, 2018, p. 108). These fake news can be distributed through social media and profit from the social media algorithm. Fake news becomes a threat to democracy when used to manipulate citizens' opinions about political candidates (Kaplan, 2020, p. 154). Misleading information or false accusations about candidates could be used to change the outcome of elections. Russia interfered in the 2016 U.S. election using fake news as one of their methods to manipulate voters' opinions. They spread false and derogatory information about candidates, used social media accounts under false identities and disparaged candidates' campaigns. The goal of the Russian interference in the U.S. election was to create and enhance political and social discord (Mueller, 2019, pp. 4–14). The difficulty of measuring the impact of fake news is also a major threat to democracy.

Frustration. The third area of effect identified by Kaplan (Kaplan, 2020, p. 155) is a threat on its own and also a consequence of fake news. The frustration of citizens can occur due to fake news and misleading information. Deceptions and the big amount of effort citizens have to bear in order to verify the correctness of an information can lead to frustration. Through this frustration citizens might stop voting or participating in democracy (Kaplan, 2020, p. 155). Besides from being a consequence of fake news, frustration can also become a threat on itself if it is actively abused.

4.2. Smart dictatorship

Welzer (2016) – a German sociologist and social psychologist from University of Hannover – has written an interesting review on the participation of AI technology in democracy. According to his book, there are several signs that our democracy, with the intervention of AI technology, is heading towards a "smart dictatorship", including:

Omnidirectional monitoring. Many IT users today are involved in their own surveillance and commercial exploitation. Service providers on the internet do this consciously and seriously because computer user data in this technological era is like a treasure trove for them. This personal data, which is mostly given carelessly and voluntarily by users, later becomes "raw material" that is ready to be processed for

certain purposes (Welzer, 2016, p. 38). A surprising event happened in 2016, where the change.org petition platform received a Big Brother Award in the business category. The Big Brother Award is a negative award given to entities that do not hesitate to disclose or sell their customer data to third parties. There is a well-founded suspicion of companies that have a good image in society that global data collection companies may be hiding behind them. These companies collect the personal data of the requesters and classify it with modern algorithms to be passed on and exposed for further use (Hilbrans and Wedde, 2016).

Panopticon. Jeremy Bentham – a British philosopher – in the late 18th century designed a building located in the center of a prison as a form of total surveillance of inmates from a single point. This view runs parallel to the development of technological tools that are increasingly advanced now it is possible to collect all kinds of personal data of users from just one device (Welzer, 2016, p. 161). It is further said that once users along with their electronic devices are permanently connected to the server, AI can achieve continuous "dataveillance", where monitoring occurs based on their existing data online (Clarke, 1988, pp. 498–512).

Social bots. They are computer-controlled pseudo-actors with specific targets and goals, for example, to spread messages quickly, express certain opinions or statements, or provide other forms of engagement. As the demand for social bots is getting higher and higher, many agencies are providing this service for specific purposes. The scary thing is, these pseudo-actors are often hard to distinguish from real social media users (Welzer, 2016, p. 46). In 2016 social bots were found "at play" in the US election campaign and became a hot topic. It was found that both candidates Trump and Clinton suddenly received a lot of support and responses to their content on social media Facebook and Twitter which ended up in a shift in public opinion about them on social networks and trends about each candidate were getting stronger (Fischer, 2016).

Post democracy. Eric Arthur Blair – better known by his stage name George Orwell – was an English novelist, essayist, journalist and critic who had expressed his vision in 1984 of a democratic system changing towards a totalitarian state. The Orwellian vision said that the development of mechanization and digitalization would be very dangerous to the democratic system because it would facilitate and smoothen the plans of "Big Brother" representing the government to influence people's daily lives. This "Big

Brother" could control what we do, what we think, and even how we feel through all the technologies we have and use (Welzer, 2016, p. 101). Proponents of totalitarian regimes often refer to this system as 'modern people's democracy', which is actually one of a 'species' of autocracy, meaning that the leader of the people is the leader of the ruling party where he can decide on matters that are discussed only at internal party meetings and his decision is final. This totalitarian regime is characterized by total control, military dictatorship, autocratic regime and also thought control (Friedrich and Brzezinski, 1969, pp. 187–199).

Of course, with AI taking part in the democratic system as described earlier, our democratic system is no longer the same as before. There are several negative effects that can arise, including:

Growing inequality. Many people do not realize that the democratic system has socio-economic functional prerequisites. It is endangered due to the introduction of AI technology that forms a "new capitalism" which certainly makes inequality either between individuals or companies increase (Schmidt, 2019, pp. 371–388). The internet is essentially an invention in a capitalist context but not politically managed. The ideal of a "free" internet has always been a shield for these companies to avoid being regulated so that they can use the "network effect" to strengthen themselves (Zuboff, 2018, pp. 335–374). Companies that can collect data from the free services they offer to people can act like "states", but much more sophisticated with their AI algorithms. Because of the personal data they control, the algorithms they have, combined with the network effects they have, their companies can be much more profitable than companies that have no data or don't even know how to process data. By extracting the data, they have companies can "program" what information they want to inject into people's minds with more precision. Justice no longer exists here, because people can no longer be free in their thoughts and actions.

Dehumanization. In recent decades psychological studies have questioned whether social media is really a place where people are "social" in the true sense of the word, or whether it merely creates an illusion of effortless closeness. (Turkle, 2015, pp. 6–7) In addition, "instant gratification bias" through "likes" and "comments" on a post or content is one of the main things that people who are addicted to social media focus on today (Zuboff, 2018, pp. 511–539). Worse, this addiction and dependence on social media makes many people lose their "native" skills that have not been used or learned

for a long time, such as reading long texts (Gardner and Davis, 2013, pp. 106–108). This is very destructive and endangers the next generation. People who are used to only reading short Instagram captions or watching 30-second videos on TikTok, will no longer be interested in reading books, newspapers or listening to discussions or attending conferences. People like this will be very easily consumed by hoax news which today is very easy to create with AI algorithms whose spread is supported by social bots that are targeted at certain people according to the data that has been processed.

Distortion on online media platforms. Anonymity in the internet world is unavoidable. This is especially dangerous because anonymous people can easily spread fake news that refers to misleading, distorted, manipulated and highly inaccurate content (Appel and Doser, 2020, p. 12). AI algorithms in the internet world somehow make extremists more visible than practical moderates, because they talk more on internet platforms. Whoever creates more content on the internet, will definitely benefit because it invites revenue for the platform providers (Bail, 2021, p. 188). False and controversial information will spread more widely and quickly on the internet, whether done by humans or social bots created by the platforms themselves. Ultimately, the internet is now characterized as a "producer of lies" which makes people's trust in anything close to zero and society is very easily divided (Howard, 2020, pp. 18–19). This was the method used by the Dutch to colonize Indonesia for more than 300 years, which was to make the people unable to unite. The tactic of dividing people of the same color allowed the rulers to stay in power longer and govern the people more easily, because the people no longer had the power to stand together against the government. This is of course what "Big Brother" wants and is very harmful to democracy.

Sharpenings of essential intermedia institution. In democratic systems before the digital era, the role of the press was one of the fourth pillars of power in the state. But it cannot be denied that professional media is often infiltrated by many political interests. As a result, news organizations are increasingly less trusted as a source of high-quality political discourse. Due to the proliferation of the internet, many non-journalists have emerged to challenge the status-quo of the existing professional media with counter-research or critical reflections in editorial conferences. Society has gradually positioned online platforms as central to political discourse, which indirectly

but detrimentally affects private companies who can no longer "just talk" and have to start controlling their freedom of speech, which has been their de facto basic right for a long time (Vaidhyanathan, 2018, pp. 216–219). It's easy for a company now to take down a rival online. With the help of AI and anonymous bots, negative campaigns can be run online very quickly. Private companies should pay more attention to their "image" online than in conventional print media.

5. Research problem

The research shown identifies characteristics of AI that could possibly be threatening to democracy. Besides that, the impacts that these threats could have on democracy are barely discussed. This paper attempts to give an insight on the negative impacts that these threats might have. The worst case of negative impacts could be a disruptive change in a democratic system. Based on that we formed the research question:

RQ: How could AI technology disrupt the democratic system?

6. Results

From the approximately 20-minute duration of each interview, we were able to draw two major themes that were discussed, namely the general use of AI for human beings and also the disruptive effects of AI for our democracy.

General use of AI for human beings. Expert 1 said that the applications of AI that almost everyone is aware of today are actually only a fraction of what AI can actually do. He believes that the room for maneuver and the potential for AI to be applied more widely and thoroughly in the future is huge. Expert 2 then added that one of the perceived benefits of AI for humans is the ability of its algorithms to use data efficiently, which makes it easier for humans to test their ideas and get future predictions. This statement was complemented by Expert 3 who said that AI's ability to analyze not only text data, but also images quickly, can also help humans to gain insights in a fairly short time. However, Expert 1 emphasized that humans should not be complacent with the conveniences provided by this technology, but rather humans should start thinking about the limits of what AI technology can do. Because according to Expert 3, in essence, the purpose of AI is not to replace the role of humans, but to support their work. Beyond that, Expert 1 believes that AI algorithms should be as transparent as possible, so that humans can also get the most objective results that everyone expects.

The disruptive effects of AI for our democracy. From the statements of the three experts, it can be summarized that there are at least three negative effects of AI in democracy that we need to be aware of: fake news, filter bubbles, and algorithm bias. One of Expert 1's fears in the AI theme is related to the "log in effect" that creates filter bubbles. What this means is that when a user logs into one of their social media accounts, the algorithms within that social media will customize the very specific news that is presented to the user based on our past interests. This is very dangerous because sooner or later, users will be influenced, as their favored opinions are repeated over and over again. For example, if users favor one political party, they will only get information from that party, and seem to "turn a blind eye" to other views that are not necessarily wrong. According to him, because users are only presented with content that they like, it is more likely that they will provide a reaction or engagement to the content, which according to the algorithm, will then spread the content more widely and massively. Still related to the bubble filter, the next issue related to it is the creation and spread of fake content. Expert 1 then added that today's AI technology is capable of creating believable text, images and even scientific articles quickly and accurately. Today, people easily create fake scientific articles that actually contain false ideas that can greatly influence many people. Worse for this problem, there are no laws strong enough to catch those who produce this type of content. In addition, because social media algorithms are based on the amount of engagement, where social media "intentionally" only broadcasts content that is favored by certain people so that the content gets a lot of engagement which in turn can be spread to people who do not even understand it at all, making the spread of false information in this era uncontrollable. Expert 1 shared that people used to have to go to another city or country to spread fake news. But today, from anywhere, anytime, as long as people have at least a cell phone and an internet connection, people can produce and spread such news in just seconds. Speaking of algorithms, Expert 2 said the bias that occurs in daily life, for example in courts of law, and Expert 3 added that it also often occurs as simply as in job applications, should also be a concern. Expert 2 believes that to make an AI algorithm intelligent, training data is required, as a basis for its future predictions. While training data or models are obtained from real-world data that may carry historical decisions based on bias or discrimination as they reflect in real life. It can be said that AI is no more objective than humans in making fair decisions. What's worse according to Expert 2 is that this is hard to argue with because people can't

argue with automated models. Plus, due to the lack of transparency in AI, auditing such things will be even more difficult.

At the end of the interview, the experts gave some messages and in particular also added some findings that we have researched. According to Expert 1, inequality is the basic problem behind everything, and the presence of AI makes the gap even wider. Regarding surveillance, he thinks it is indeed a hot topic of discussion in Germany. For now, Germans have nothing to worry about, although they should remain vigilant. Compared to China, Germany does have a different culture and background, where Germany always tries to optimize benefits for individuals, while China is the opposite. Finally, regarding fake news, Expert 3 emphasized that everyone should increase their vigilance on any content they consume from the internet, they should always take information with their brain and soul. He also suggested to always test the status quo of the content we read, try to always look for contradictory arguments, so that in the end we get accurate information as much as possible. As normal human beings, we must be able to coexist with AI technology while being vigilant, because according to Expert 1, the development of information technology and AI always leads to a better and faster and more sophisticated direction.

7. Discussion

The results shown from the expert interviews were in line with our research Especially for threats like fake news and filter bubbles which are topics that the broad majority of people have heard of Since these threats are present in our society it is important to teach people the right handling with the media. That's why media literacy and research are important skills not only for researchers but also for ordinary citizens. Expert 3 supported the argument by saying: "[...] we should evaluate and improve the skills to actually determine the quality of the source [...]". This displays the need for people to be aware of the dangers they confront on a daily basis. Expert 1 also raised awareness of the potential of fake news. He stated that it becomes more and more difficult to distinguish between human and AI-generated texts. This problem could become a real threat in no time. Expert 1 predicts a five-year time frame for that threat to occur. We can only predict how big the impact of AI generated fake news, which are indistinguishable from human-written texts. The sheer volume of fake news could lead to disruptive events in a democracy. That's why it's important to take precautions.

Creating a legal framework to ensure public safety is a challenge but also necessary (Nemitz, 2018, p. 7).

Expert 2 brought up an interesting argument. He stated that AI is not the underlying problem but enhances the problems that make them a real threat. Fake news and filter bubbles existed before someone even thought about AI or the internet of things. But even though these problems came out before, they weren't a real threat because they could only reach so many people and had to be generated by humans. Therefore, AI can enhance those problems by reaching a much greater audience and generating fake news multiple times faster than humans (Bostrom, 2014, pp. 77–78). Keeping that in mind, one could argue that AI is a real threat because those problems wouldn't be as dangerous to democracy without AI.

Regarding the limitations of this paper, we can only make predictions which threats have the potential to disrupt a democratic system. Our approach provides a precedence of threats that AI presents to democracy. This paper can serve as a guideline for potential threats. However, detailed research on those individual threats is needed to validate the potential impact and to determine appropriate countermeasures.

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