

Artificial Intelligence and its Impact on Contemporary Society

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Abstract

This write-up analyzes artificial intelligence and its impact on contemporary society. Artificial intelligence technology is impacting much of our daily lives in contemporary society and many of us do not even realize it. This study confirms that AI technologies have permeated many spheres of life. Consumers are using and interacting with them on a regular basis. They are present in several contemporary technologies, including social media, email, speech recognition, data security, and smart home appliances. However, the mass media's misrepresentation of AI and experts' inaccurate predictions about AI have distorted consumers' perceptions regarding the technology. The distortion has become so widespread that many consumers do not realize that AI is now an indispensable part of their lives.

Introduction

Artificial Intelligence (AI) technologies and applications have become a ubiquitous aspect of people's lives, but very few realize this. Over the last decade, scientists have made significant breakthrough in the development of fast, efficient, and cost-effective technologies that can reason, manipulate objects, move objects, perceive emotions, perceive speech patterns, recognize images, process natural language, learn new skills, plan, represent knowledge, and reason. These forward leaps have led to the creation of sets of weak AI applications that can focus on a specific task (like playing poker, playing chess, managing a disaster, or diagnosing a disease) and outperform the most highly-skilled human actors. In future, the innovations will create avenues for the creation of autonomous, super intelligent tools and applications that can perform independent unsupervised learning tasks with little or no supervision from human beings. Although technology firms are yet to develop these autonomous, the weak AI tools and applications have become so effective and cost-effective that it has become commonplace for technology experts to claim that they are integral to human beings' effective management of their routine engagements.

This study will improve consumers' awareness of the ubiquity of AI by analyzing its impact on contemporary society. To undertake this analysis, the researcher will do two things. First, the researcher will evaluate the factors that are undermining consumers' ability to know about the existence of AI and the prominent role it plays in their lives. Second, the researcher will analyze the contemporary applications of AI to people's lives. An in-depth investigation into the modern-day application of the technology will give consumers crucial insight into their level of interaction with AI. In the process, they will learn how AI-based innovations and tools have impacted their lives.

Statement of the Problem

Despite the scientists' assertion that AI tools and applications are present in all spheres of life, many consumers are yet to perceive their presence in their lives. Several media studies and surveys reveal that a majority of people engage with Artificial Intelligence without knowing it (An, 2017). It is a fair assessment that nearly every individual living in an urban setting benefits from Artificial Intelligence each and every day of their lives (An, 2017). At the same time, a large proportion of these individuals do not realize that they are engaging with AI applications or using AI-powered technologies (An, 2017). In fact, a substantial percentage of smartphone users are not aware that many of the applications they regard as necessary or essential to the effectiveness of their gadgets are AI-based (An, 2017). In a recent study, HubSpot recruited 1,400 consumers drawn from different countries around the world and asked them to complete a survey that sought to find out their awareness of AU tools (An, 2017). The results indicated that 90% of the consumers had used AI tools like voice search and AI-powered bots that perform customer service functions, but very few realized that they were interacting with AI (An, 2017). The results indicated that up to 63% of the respondents routinely interacted with and used AI tools without realizing it (An, 2017). Many believe that it is the effectiveness of their phones rather than the speed and effectiveness of the AI application that makes their use of the smartphones enjoyable. An awareness of the existence of this technology and its uses would prove pivotal to their utilization of smartphone and other commonplace technologies that have incorporated AI into their functionalities. Unfortunately, many consumers do not know that they use and interact with AI on a daily basis.

Limitations of the Study

Having highlighted the overall objective of the current study, this section will briefly discuss its scope. The researcher will limit the study to the analysis of the factors that undermine consumers' awareness of AI and the application and impact of AI on contemporary society. However, the analysis of the obstacles that prevent consumers from developing knowledge on the existence of AI will be brief. While a detailed analysis of these factors is important, the researcher believes that such an undertaking will reduce the space allocated to the second aspect of the study (the impact of AI on contemporary society), which is of significance to the present study. To achieve an accurate assessment of the impact of AI, it is necessary for the researcher to undertake a detailed analysis on the deployment of the concept in daily living technologies and how it affecting the ease with which consumers perform tasks in their personal and professional lives.

Methodology

This is a secondary research study. The author collected and analyzed existing information published in reports, textbooks, online journals, and peer-reviewed journals. The research methodology differs from the primary/field research strategy because it does not involve the collection of new information through direct qualitative and quantitative methodologies like experiments, observations, interviews, focus groups, in-depth interviews, and surveys. Instead, the author evaluated various online databases, identified studies relevant to the topics on the contemporary impact of AI, identified studies on the level of consumers' awareness of the technology, and used insight from the study to develop concrete argument on AI and its ubiquity in people's lives. The secondary research approach is advantageous because it is not as costly and time consuming as primary research strategies like interviews and surveys. Further, most of

the reviewed sources have content that is new, well-researched, and relevant to the present study. These key advantages make secondary research suitable to the present study.

Literature Review

The topic on consumer awareness of AI tools has not received considerable attention from AI experts. A cursory review of scholarly databases followed by an in-depth review have revealed that few scholars have published studies on this topic. In fact, the review revealed that Cave et al. (2018) are the only scholars who have recently published peer-reviewed text on the subject. Although Cave et al.'s (2018) study is the only current study on the topic, its claims offer crucial insight into the link between the portrayal of AI in the mass media and people's development of misguided views about the technology. In the text, Cave et al. (2018) acknowledge mass media artefacts, events, spectacles, images, videos, and texts can influence how people perceive and interact with social phenomena. Flowing from this logic, Cave et al. (2018) pointed out the media's portrayal of AI has had an impact on their indifference towards the technology. In addition to Cave et al. (2018), a number of people have published online journals that investigate issues related to consumers' awareness of AI. An's (2018) survey on people's awareness of AI was beneficial in shedding light into people's perception of AI. The survey revealed that AI is now an integral part of people's lives, but only 37% of the respondents in the study realized it. Connecting with Cave et al.'s (2018) claims, this finding suggested that mass media sources played a role in the current state of ignorance. Apart from the media, eminent scientists and personalities have contributed to consumers' misguided views about AI (Rusel, 2015; Turchin & Denkenberger, 2018). Experts like Elon Musk, Stuart Russell, Steven Hawking, Frank Wilczek, Max Tegmark have issued exaggerate pessimistic and optimistic claims about AI that have only served to confuse ordinary consumers (Rusel, 2015; Turchin &

Denkenberger, 2018). These claims have distorted consumers' perception of AI and made it difficult for them to perceive the presence of AI in their lives.

In contrast, the topic on AI applications and their impact on contemporary has been the subject of researchers' attention. A significant proportion of time has been invested in the analysis of contemporary AI applications. The researchers have focused on contemporary uses of AI like emailing, social media, speech recognition, internet search, smart homes, and data safety. In the course of the analysis of these applications, the researchers have analyzed their impact on people's lives. However, none of the studies has extended their analysis to matters of consumer awareness. Therefore, this study will take the analysis a step further by linking the discussion to issues related to consumers' perception of AI.

Analysis

Consumer Awareness of AI Tools

Ordinary consumers are generally ignorant about the existence of AI tools and AI applications. Through research surveys, researchers have analyzed consumers' perceptions and awareness of AI tools and AI applications that have now become an indispensable part of their lives. Findings from those studies have revealed that although AI tools and applications are present in every aspect of consumers' lives, very few consumers are aware of their existence. To get a sense of the degree of consumer ignorance in matters related to AI, An (2017) conducted a survey on 1,100 respondents to determine their perception of AI. An (2017) commenced the survey by asking the respondents had ever used an AI tool in their lives. Only 37% of the research participants responded in the affirmative (An, 2017). However, follow-up questions about AI tools that are now part of the research participants' lives revealed that 67% of research participants who claimed that they knew nothing about AI were actually using AI-based

application like Siri and Voice search (An, 2017). Because of advances in user-friendly AI technologies like voice search, AI is now an integral aspect of people's lives. Nonetheless, many consumers of technologies with AI-powered functionalities cannot perceive its existence.

Consumers' flawed, inaccurate, and sometimes confused perception of AI is one of the chief reasons behind their limited knowledge on the pervasiveness of the technology. A majority of us associate AI with the exaggerated and often melodramatically pessimistic depictions in the media and entertainment platforms such as cinematic releases and video games (Cave, et al., 2018). In many of these depictions, authors and film producers provide an account of what they believe AI might achieve. On one end of the spectrum, scientists have offered grand hopes by depicting AI as the master technology that would amplify people's cognitive talents and capabilities. Respected scientists like Frank Wilczek, Max Tegmark, Stuart Russell, and Steven Hawking have listed poverty eradication, disease elimination, and world peace among the lofty outcomes that would arise from AI (Cave, et al., 2018). These bombastic promises suggest that AI has the potential to address many social problems that have bedeviled society for many years.

On the opposite end of the spectrum, renowned scientists and imminent personalities like Elon Musk and Russell Stuart have claimed that AI will be worse than a nuclear warhead. Musk asserted that AI could contribute to the death of the human race if it fell into the wrong hands (Turchin & Denkenberger, 2018). Russell Stuart, a computer science professor at UC Berkeley, underscores this pessimistic outlook in his assertion that modern-day robotics and AI technologies have the long-term planning, strategic decision-making, mapping, navigation, motor control, perception, and physical platforms needed to identify, engage, and eliminate human beings in any corner of the world (Russell, 2015). Dr. Nick Bostrom, a philosophy professor at Yale University, points out that AI can lead to the extinction of the human race.

According to Bostrom, AI can create self-replicating bacterium nanobots that can consume or poison all living organisms and plants in the biosphere. The subsequent death of all organisms will spell doom to human beings continued existence as a species (Bostrom, 2002). These negative, but lofty narratives create the impression in consumers that AI tools will come to destroy all aspects of human beings' extinction.

The pompous and downright cynical accounts on AI have distorted consumers' perception of AI and prevented them from perceiving the presence of the technology in their lives. Today, many consumers regard AI as a grand technology that will come in future years to either improve or destroy their lives. The truth is that the average person interacts with AI almost on a daily basis (An, 2017). Knowledge of the involvement of AI in these interactions, however, is not always apparent. Artificial Intelligence technology has so embedded itself in our modern lives that, for those who know better, it should be scarier imagining a world without it (An, 2017). However, the widespread prevalence of AI is a statement that does not receive the unanimous attention of pessimists and the media. Now that is a statement that does not receive unanimous affirmation, but that should be a fitting and well-formulated proclamation to question outlooks sufficiently to put the point across.

There are various reasons why the average person is oblivious of how much Artificial Intelligence technology is impacting our daily lives. Central to this oblivion is the extremely faulty perception of what constitutes Artificial Intelligence in the first place. Millions (possibly billions) of people associate AI as a concept with the depictions they have received from media outlets such as cinematic features and press releases through broadcast and print media. To many Americans, the very mention of AI conjures up images of machines and high-tech robots looking to take over the planet from humans (Russell, 2015). Most of these depictions are usually either

exaggerated, misrepresenting, or outright wrong (Russel, 2015). The reasons for these faulty portrayals are varied, from business strategies to genuine ignorance or lack of understanding on the part of the media execs who call the shots in media houses. As a result of this very deficient understanding, there is a considerable number of people who still ignorantly hold to the notion that AI is a technology that is still being worked on and that will come sometime in the future. Nonetheless, the reality is that AI applications are an important component in their lives.

AI Applications

AI and emailing. Email is a predominant medium of communication in contemporary society. Millions of email exchanges take place each day. It may not be apparent that AI is heavily utilized in making emailing easier and faster. The main email services like Gmail and Yahoo mail use AI filters to classify incoming messages in categories such as Primary, Social, Promotions, and Junk (Vincent, 2019). If it were not for these AI filters, users' inboxes would be flooded with spam mail, and it would also be difficult to shift through messages (Vincent, 2019). AI technology eases this by prioritizing what comes in and organizes them in categories in the form of tabs. The 'smart replies' that offer textual suggestions based on the content of received emails also utilize AI technology (Vincent, 2019). The prodding reminders of Gmail and a few other email services have become increasingly popular over the last few years (Vincent, 2019). These reminders prompt users to follow up on emails that they appear to have ignored or forgotten about. Artificial Intelligence technology tries to decipher mails that might require replies, then brings them to the attention of the user after a set period of inaction.

AI in social media. Social media is a landmark feature of the current generation and a dominant presence in the lives of billions of people. Part of what clouds just how deeply AI is utilized in social media is the fact that the assimilation has been gradual, with the incremental

changes coming in steps that neutralize the impact of the major leaps made (Doffman, 2019).

The truth is that AI is all over social media (Doffman, 2019). What holds the key to understanding the assimilation of AI into social media—at least from the users' position—is the awareness of the perpetual need for the platforms to improve user experience (Ava, 2019). It is in the best interests of social media platforms to make it easier and more convenient for users to utilize their services. This presents an immense challenge given that billions of users log in pumping in massive volumes of amorphous information each day (Ava, 2019). This scenario would result in total mayhem for users trying to find relevant content or even draw some utility from use of these platforms. Thanks to AI, it is possible to structure this data and relay it in a manner that not only makes sense to the eventual users, but also significantly improves their experience.

The way social networks determine what content to display on users' newsfeeds and their equivalents is through AI. There are millions of posts that can potentially bombard a user, but AI technology filters what gets in and sieves to exclude what might not be relevant on a case by case basis (Merriman, 2017). It may appear as simple sense that only the stuff that most interests a specific user should be made most readily available once they log in, but that does not happen without utilizing complex algorithms made possible by AI technology (Merriman, 2017).

Utilizing bases of geographical location, age demographic, history of interaction, previous behaviors, profile details, and other metrics, social media platforms can make a fairly accurate guess of what posts by other users could interest a given user (Merriman, 2017). This is how come almost always the very first display upon logging in is usually very relevant and of interest to a user (Merriman, 2017). Many people are not aware that AI is significantly involved in this

function. It is left to everyone's imagination how difficult it would be to navigate through social media platforms without this kind of help. It would also be a nightmare.

Some of the features that are central to certain services are heavily reliant on AI. Facial recognition, for example, has been received with great wonder and amazement often without the realization of the technology that powers it. The multimedia messaging application Snapchat is currently one of the most popular social networking sites (Le, 2018). Users can take pictures and share within the same platform. What is arguably the most popular feature of Snapchat is its filtering capabilities (Le, 2018). The application heavily relies on AI to perform most of the functions that keep it fashionable. First, it perceives and distinguishes faces from the rest of the content in a visual frame. It does this by scanning and calculating light and color contrasts (Le, 2018). Already to this point, AI has set the platform in a class of its own away from other photo-taking gadgets (Le, 2018). Snapchat then locates and isolates facial features. Utilizing a large sample, Snapchat has been able to transfer the manual ability to mark out the borders of facial attributes onto a statistical model (Le, 2018). This model then employs an algorithm that tries best to match its average statistical impression of a face's topography onto the already isolated face in a camera frame (Le, 2018). Although this process is much more complicated than this, it takes about a second, and that's probably why the intricacies behind it may not seem complex enough to be easily associated with artificial intelligence (Le, 2018). It is, however, much easier to make the connection between AI and the numerous visual effects options Snapchat provides for users in the forms of filters and stickers. Snapchat filters engage an extension of the facial feature recognition ability algorithms to modify one or several of these features (Le, 2018). Some filters add on various shades and types of cosmetics to the detected faces. Others add on accessories such as eye glasses, ear and nose rings, caps, Even more amazing is how there are

filters that add on missing facial features—beards, mustaches, eyebrows--in the accurate facial location they would ordinarily appear. Facial Recognition Technology is not exclusive to Snapchat though. Actually, the technology was in use years before any social media platform gained mass popularity.

There are numerous other aspects of daily life communication that rely on AI. Many firms and corporations that have an online presence are finding out that adding an online live chat feature is crucial to their competitiveness. Given the mass volume of potential site visitors, some of the live chat responsibilities are often handled by chat bots. These bots are programmed to respond with relative accuracy to inquiries with input from which detectable content can be deciphered. For most people who engage in online activities, it is rare not to encounter a chat bot at least weekly.

Computer Security. Anybody who uses a computer on a regular basis benefits from AI in more ways than are explicitly apparent. At any given moment, computer systems face thousands, if not millions, of attempts at unauthorized infiltration by malicious agents. The average computer user has unreliable knowledge of how antivirus or anti-malware software function in blocking, identifying, and eliminating threats to computer systems (Sawers, 2018). Antivirus engines use advanced machine learning algorithms to sniff out suspicious programs (Sawers, 2018). Depending on the actions detected and the unique characteristics of a given file, the antivirus engine catalogs its comportment to determine if it is malicious (Sawers, 2018). All this happens within seconds, but it is this process that shields our computer systems from being infiltrated by viruses and malware that would otherwise cause disruptive and often costly damage.

Google and internet search. Over the past two decades, Google has steadily and rapidly been establishing itself as a staple tool for human engagement with the internet. It is hard for anyone living in this information age to distance themselves from Google to an extent of believing the search engine does not offer some form of utility to them. Even those who don't consider themselves techies and those who hardly ever use the internet somehow indirectly reap the benefits of the great convenience and service that google offers (Jimenez, 2018). White collar professionals consult google almost as much if not more than their blue collar counterparts (Jimenez, 2018). Medical practitioners, stock brokers, accountants, and software developers depend on google just like salespeople, artisans, retailers, manufacturers and other waged specialists (Jimenez, 2018). Most all providers of crucial services rely on Google's search function. Google's ability to inform strategies in marketing, customer satisfaction, product/service development, professional advancement, and other aspects of any enterprise's development makes it an almost indispensable tool of trade (Jimenez, 2018). Given how much google impacts corporations, it is only rationale to admit that this impact trickles down to the public that these entities serve. What may come as a shocker, however, is the reality that Google's efficiency, popularity, and value depends greatly to its integration of Artificial Intelligence in its functioning.

The dominance that Google enjoys over other search engines is attributable to its superior delivery of relevant results upon requests. Each google search query is intricately customized to deliver the most relevant results to a user (Metz, 2016). Geographical location, search history, social networks, and web history are the dominant among dozens of variables that google uses to customize searches fed through its platform (Metz, 2016). These variables, or signals as they are referred to within the internet search circles, are then analyzed by Google's composite algorithm

that finds the most relevant web pages matching individual searches. This algorithm functions using sophisticated Artificial Intelligence technology.

Speech recognition. Voice recognition technology is AI. Virtual Assistants, such as Apple's Siri, one of the most popular voice recognition applications, are powered by AI (Turchin & Denkenberger, 2018). The computational functioning of speech recognition is AI-powered. The ability of speech recognition technology is useful in identifying a speaker as well as recognizing auditory commands that can then be executed by a computer system. Such capabilities are utilized in learning languages and improving fluency (Turchin & Denkenberger, 2018). Persons with disabilities of various kinds benefit immensely from speech recognition software. For example, for those with hearing difficulties, a closed-captioning of communication can be created in a controlled setting (Turchin & Denkenberger, 2018). The main systems of deaf telephony such as IP-relay, voicemail to text, and captioned telephony—a system that enables those hard of hearing to directly speak through a telephone call—all rely on AI technology.

Other AI applications. Due to the rapid expansion in the application of AI technologies, technology companies have now integrated them into home automation. Statistics from Cisco indicate that connections such as those that link home security systems, white goods, video surveillance systems, and tracking systems with AI-based technologies will account for 46% of all machine to machine interactions by 2021. Gadgets like Google Home and Amazon Echo use internet of things and voice command to connect different devices within a smart home. However, AI-driven applications have taken that interlink a step further by detecting the homeowner's arrival. Thereafter, it pulls up the curtains, turns on the lights, unlocks the main door, and shifts the air conditioning lever from energy saving mode to his desired temperature (Chauhan, 2018). AI have equip smart homes with autonomous systems that can recognize

members of the house, detect threats, prevent intrusion, undertake routine maintenance on appliances, and determine the homeowners time of arrival and make the needed preparations (like turn on the sports channel, turn on air conditioner, and brew coffee) for their arrival (Rakheja, 2018). Along with home automation, AI is now an integral part of the modern-day work environment. In the work environments, AI-powered technologies have improved knowledge workers' efficiency and productivity levels by performing routine administrative tasks. AI driven tools like *X.ai* and *AISense* perform repetitive administrative tasks. *X.ai* cancel, reschedule, and schedule meetings (Greene, 2019). This has eliminated the need for knowledge employees to spend their time and energy writing and responding to messages on an impending meeting (Greene, 2019). *AISense* enhances efficiency and productivity through the automatic transcription and publication of meetings (Greene, 2019). This eliminates the tedious practice of recording, writing down, and disseminating the minutes of a meeting (Greene, 2019). Elimination of these repetitive and mundane tasks frees up employees and gives them time to focus their attention on operational tasks that are impactful to the organization.

Conclusion

AI is impacting and uplifting many aspects of people's lives. In fact, it is now an indispensable feature in many people's lives. It is prominent in various contemporary technologies including social media, emailing, internet search, computer security, and speech recognition. In these technologies, the presence of AI applications has made communication efficient, eliminated spam, augmented data security, and improved consumers' quality of life. Nonetheless, consumers are still in the dark about the pervasiveness of AI in their lives. A number of factors are contributing to this state of affairs. These factors include misleading

narratives from the mass media, the lofty claims from eminent scientists and opinion leaders, and pessimistic accounts from respected philosophers and computer scientists.

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