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GRAPHIC DESIGN IN RESPONSIBLE ARTIFICIAL INTELLIGENCE

Grafik Tasarımda Sorumlu Yapay Zeka

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ÖZET

Yapay zekâ alanındaki gelişmeler grafik tasarımı da doğrudan etkileme gücüne ulaşmıştır. Yapay zekâ tasarımcılara, teknik beceriler, fikir bulma, prototipleme ve geliştirme konusunda birçok imkân sunmaktadır. Son zamanlarda tasarımcıların neredeyse kaçınılmaz olarak çalışma hayatlarına dahil ettiği yapay zekâ, sınırsız sayıda görsel-işitsel ögeler oluşturma, paylaşma ve analiz etme gücüne de sahiptir. Fakat bu güncel gelişmelerle birlikte yapay zekâ etik, adalet, şeffaflık ve hesap verebilirlikle ilgili endişeleri de arttırmaktadır. Bu bağlamda sorumlu (etik/güvenilir) yapay zekâ, yapay zekâya ilişkin riskleri ve olası problemleri ortadan kaldırmayı amaçlamaktadır. Sorumlu yapay zekâ temelde güven veren sistemler yaratmaktan çok daha fazlasıdır. Özellikle grafik tasarımcıların karşı karşıya kalabileceği riskleri ortadan kaldırma ve güven oluşturması adına önemlidir. Araştırma, sorumlu yapay zekayı grafik tasarım ekseninde potansiyel riskler ve etik boyutlar üzerinden değerlendirmektedir. Çalışmada nitel araştırma yöntemi kullanılmış olup, basılı ve elektronik (internet tabanlı) kaynaklardan yararlanmıştır. Araştırmanın sonucunda, yapay zekayı sorumlu bir şekilde geliştirmek ve kullanmak için, teknik, toplumsal (toplumların ilke ve değerlerine uygun) ve yasal yöntemlerin daha fazla geliştirilmesi gerektiğine ulaşılmıştır.

Keywords
Graphic design, Artificial Intelligence, Responsible artificial intelligence, Ethic.

ABSTRACT

Developments in the field of artificial intelligence have also reached the power to directly affect graphic design. Artificial intelligence offers designers many opportunities in terms of technical skills, idea finding, prototyping and development. Artificial intelligence, which designers have almost inevitably included in their working lives lately, has the power to create, share and analyze an unlimited number of audiovisual elements. However, with these current developments, artificial intelligence also increases concerns about ethics, justice, transparency and accountability. In this context, responsible (ethical/trustworthy) artificial intelligence aims to eliminate risks and possible problems related to artificial intelligence. Responsible AI is about much more than creating fundamentally trustworthy systems. It is especially important to eliminate risks that graphic designers may face and to build trust. The research evaluates responsible artificial intelligence in terms of potential risks and ethical dimensions on the axis of graphic design. Qualitative research method was used in the study and printed and electronic (internet-based) sources were used. As a result of the research, it was concluded that technical, social (in line with the principles and values of societies) and legal methods need to be further developed in order to develop and use artificial intelligence responsibly.

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1. INTRODUCTION

Technology has affected many design fields from past to present, as well as graphic design. Graphic design basically includes analytical problem solving process, aesthetic values and communication. Artificial intelligence has started to produce studies on the creativity and technical processes of graphic design. This advanced technology system is the non-biological system inspired by human cognitive abilities such as thinking, learning, using natural language, memory and reasoning. Today, artificial intelligence can create graphic design products using human cognitive abilities. These works cover a wide spectrum from logo design to poster design, from illustration to label design. Artificial intelligence's ability to create visuals has progressed in line with current developments in the field of deep learning and today it has enabled the creation of an infinite number of visual or audiovisual elements. Works created by artificial intelligence can speed up the technical processes of designers and provide inspiration for the production of creative works. In this context, it can be said that artificial intelligence has positive contributions to designers. The databases/data sets on which artificial intelligence is fed and trained while preparing visual design products consist of the works of designers and artists. These works can be taken from portfolio sites (behance, driible, artstation.com) or personal websites without permission. Regarding this, many artificial intelligence (visual creators) programs operate a process that is far from transparency and accountability. While this situation causes the emergence of works that are very similar to each other, it also puts the work of designers at risk. This situation creates problems of both creativity and originality. It can also be said that graphic designers are influenced by artificial intelligence productions and can use these productions directly. It is not possible to know where and how the works presented to designers were taken from databases. Especially in programs where we create images in seconds, all that can be done is to focus solely on production. Here, the originality of the designs and the future of human creativity are open to debate. The works produced by designers as a result of a long working process can be used without permission from a database. Sanctions and laws regarding ownership and copyright of the works in the data sets on which artificial intelligence algorithms are trained are not yet in effect. This situation triggers designer rights and copyright problems.

Most artificial intelligence programs do not have filters regarding prejudices and stereotypes in society and the world. This may also be reflected in the poster designs and illustrations that the designer wants to make. Prejudice and stereotype problems are part of artificial intelligence. Lack of trust due to artificial intelligence, uncontrolled theft of labor in the visual and audio fields, visual-based malicious use of artificial intelligence, and its active role in disinformation campaigns create trust problems in society and negatively affect social welfare. It also paves the way for the emergence of situations that may erode the moral values of society (pornographic content for children, unauthorized deepfake applications). Responsible AI (ethical or trustworthy AI) is very important in this context. Responsible artificial intelligence means that relevant individuals and organizations take more responsibility and accountability in the responsible development and use of artificial intelligence.

This article presents the potential risks and ethical problems that may be encountered when using artificial intelligence in graphic design through responsible artificial intelligence. The aim of the study is to examine the effects of responsible artificial intelligence in graphic design and how it can be used. It also aims to raise awareness about responsible artificial intelligence. It is important to investigate this issue because responsible artificial intelligence can have negative consequences when not used effectively. This research aims to contribute to the adoption of responsible artificial intelligence applications in graphic design and to make design processes more ethical and reliable. Consciously developed artificial intelligence is important in controlling risks and ethical issues in creative fields such as graphic design.

2. GRAPHIC DESIGN IN THE AGE OF ARTIFICIAL INTELLIGENCE

Graphic design is a multi-layered discipline. It contains many components. Graphic design takes ideas, concepts, text and presents images in a visually interesting way (Ambrose & Harris, 2017. Graphic design is a mixture of different components that provide informative, entertaining and guiding visual and textual communication (Heller & Anderson, 2016). It's appears in almost every aspect of life. This also makes it an international language of communication. Graphic design has infiltrated every aspect of life. Their diversity and prevalence range from graphic design products, traffic signs and food information to movie credits in the cinema (Twemlow, 2011). The diversity of graphic design is also blended with technology. Technology has an important place in the designer's ability to put his creative ideas into practice. Graphic design works, which were previously performed by handcrafted methods, have been digitalized through computers and have created positive effects (fast production, distribution, time, cost, sustainability). In graphic design, analytical problem solving process, aesthetic artistic values, communication and mastery of programs are entirely the skills of the designer. This situation has begun to change with artificial intelligence, one of the powerful symbols of technology. Artificial intelligence is not a passive tool like other design programs (psd., ai., indesign, 3dmax, etc.). In order to discuss artificial intelligence in graphic design, it is necessary to touch upon this concept first. There are many definitions of artificial intelligence in the literature. Artificial intelligence can also be defined as the ability of a computer or a computer-supported machine to perform tasks related to higher mental processes such as reasoning, making sense, generalizing and learning from past experiences, which are generally assumed to be human-specific qualities (Şen, 2022, p. 10). According to Genesereth and Nilsson, artificial intelligence is a study on intelligent behavior. Its main goal is to create a theory that aims to artificially produce the intelligent behavior of creatures in nature (Nabiyev, 2005, p. 33). Artificial intelligence is a science and engineering that produces intelligent machines and especially intelligent computer programs (McCarthy, 2007). Each definition is specialized in certain areas. In the most general definition, it is the existence of human cognitive abilities within or even beyond human limits.

Artificial intelligence is also divided into types within itself. Particularly powerful artificial intelligence is the producer of studies close to human limits. One of the networks in which artificial intelligence produces the first visuals is generative adversarial networks (GAN). Generative adversarial networks (GAN), one of the artificial neural networks, are divided into two: generative and discriminative. The producer and discriminator network has the potential

to produce a new output by educating each other with mutual feedback. These networks can produce outputs that have not been created before by trying to learn the data sets given as input (Şen, 2020, p. 3950). Generative adversarial networks have contributed to the development of many image generating networks (Stable Diffusion, VQCLIP-GAN, etc.). It is possible to request a design on a specific subject (logo or poster design) with artificial intelligence programs used differently in design programs, with sentences entered in the prompt/request field. Designs created in seconds do not require any technical/creative skills (figure 1.).

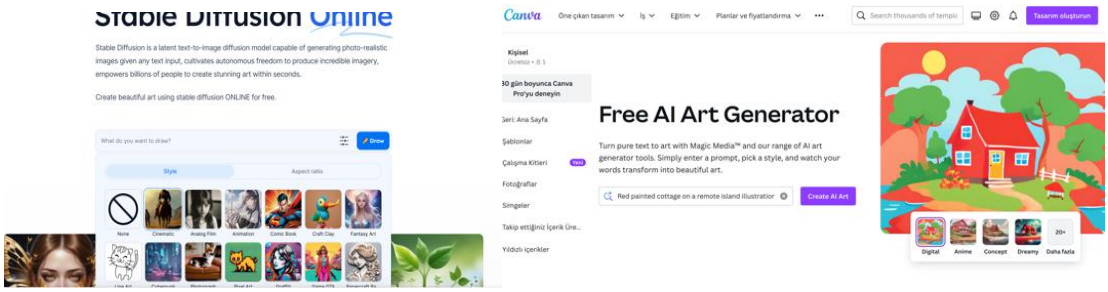

Figure 1. Stable diffusion and Canva applications.

Artificial intelligence, which we encounter in many graphic design products from typography to label design, from poster design to logo design, has gained great momentum in the field of visualization from past to present. Studies on typography began to emerge in 2019, and today it has enabled the creation of typographic design studies with many alternatives (figure 2.).

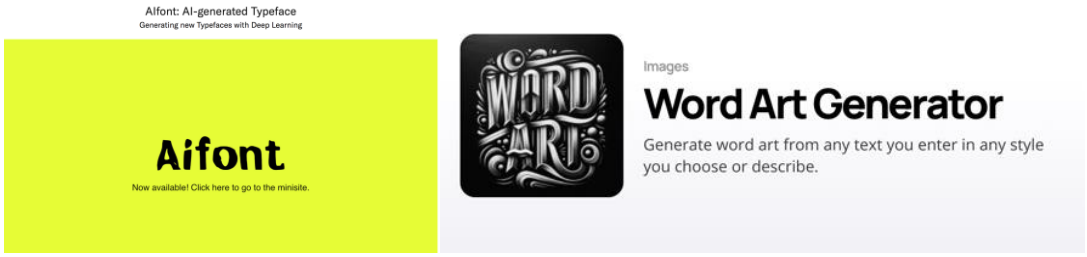

Figure 2. Ai font design Process studio 2019, Word art generator 2024.

In poster design, Netflix's implementation of a personalized recommendation system has led to an increased interest in artificial intelligence. The poster design was being redesigned individually in line with artificial intelligence algorithms. Choosing contextual images according to profile type, Netflix algorithm selected the image of a famous comedian in a profile that mostly watches comedy movies, while similarly, it selected the image of a compatible couple in a profile that watches romantic movies (figure 3.).

Figure 3. Netflix contextual images according to profile type.

The creativity, originality, functionality and transparency of these works regarding copyrights are still a matter of debate. The graphic designer is part of the analytical problem solving process. Aesthetic values, creative vision, and creative decision-making are mostly his own. Today, hundreds of design applications related to artificial intelligence are being developed. These practices still depend on humans in the problem-solving process, aesthetic values, creative vision and decision-making mechanisms. Graphic designer and artificial intelligence can create creative works. However, in this process, the ethical and reliable nature of artificial intelligence will protect the designer against the risks of artificial intelligence.

3. RESPONSIBLE AI

Today, most of the studies on artificial intelligence focus on current developments and positive values in this field. “The current discourse of AI research focuses predominantly on the potential value and positive impacts of AI, while traditionally ignored issues of the field remain unexamined” (Linstead et al. 2014). The concept of responsible artificial intelligence against the possible negative effects of artificial intelligence comes to the fore. Responsible AI (ethical or trustworthy AI) is the responsible development of AI. “Responsible AI (ethical or trustworthy AI) is not about placing responsibility on machines for their actions and decisions and not holding people and organizations accountable in the process. Responsible development and use of artificial intelligence means greater responsibility and accountability from relevant individuals and organizations” (Şen Atiker, 2024, p. 135). Responsible AI is human-centered and ensures users' trust through ethical decision-making methods. The decision-making process must be fair, accountable, unbiased, non-discriminatory and consistent. Guidelines, principles and strategies to ensure trust and accountability in AI should address the socio-technical ecosystem in which AI is developed and used. It is not an AI product or application that should be ethical, trustworthy, or responsible. Rather, the social component of this ecosystem can and should take responsibility, taking into account an ethical framework in which the overall system can be trusted by society. There is fundamental agreement that a set of principles should be established that ensure the consistent ethical, transparent and accountable use of AI technologies (Accenture, 2021). In 2019, the European commission developed a guideline that defines the key components included in responsible artificial intelligence (European Commission, 2019). These principles; justice, transparency, accountability, robustness and security, data management, laws and regulations, human surveillance and social welfare. As stated in the Guidelines, trustworthy AI has 3 components which should be met, as belows:

- It should be lawful, complying with all applicable laws and regulations,
- It should be ethical, ensuring adherence to ethical principles and values,
- It should be robust, both from a technical and social perspective, since, even with good intentions, AI systems can cause unintentional harm (Europe, eu).

Artificial intelligence systems that have a direct impact on society should be trained to be aware of their own responsibilities in relevant situations. This requires the development of codes of conduct in education and training. Responsible AI also refers to the need for mechanisms that enable AI systems to reason about and act according to ethical and human values. Artificial intelligence systems are generally characterized by their autonomy, interactivity and adaptability. To reflect societal concerns regarding AI ethics and to ensure that AI systems are developed responsibly by combining social and ethical values, some features (principles of accountability, responsibility and transparency) need to be completed. Accountability refers to the need to explain and justify one's decisions and actions to partners, users, and others with whom the system interacts. To ensure accountability, decisions need to be derived and explained from the decision-making algorithms used. Accountability in AI requires both the function of guiding action (forming beliefs and making decisions) and the function of explaining (placing decisions in a broader context and classifying them according to moral values). Responsibility refers to people's own roles and the ability of AI systems to respond to the person's decision and identify errors or unexpected consequences. Transparency, on the other hand, refers to the need to identify, examine and reproduce the mechanisms that enable AI systems to make decisions and learn to adapt to them. The development of responsible/reliable/ethical artificial intelligence in line with human values will also directly affect graphic design.

3.1. Potential Risks and Ethical Aspects

While the use of artificial intelligence offers a new aesthetic experience, it also brings with it potential risks and ethical dimensions. These risks refer to vulnerabilities related to artificial intelligence. Today, drawings produced in seconds, works similar to the works of many designers, show designer rights and copyright problems. The decline in technical skills and the emphasis on artificial intelligence production in terms of ideas and inspiration brings with it some creativity and originality problems. Sexist and racist designs in the works produced also show prejudice and stereotype problems. In addition, unauthorized uses in the visual/audiovisual field, lack of control, visual-based malicious uses and disinformation campaigns also create trust and welfare problems.

3.1.1. Creativity and Originality Issues

Creativity is very important for many design fields. Each discipline defines creativity according to its own field. However, the common denominator of these definitions since the 1950s has been three parameters. To be new, to be useful and to be applicable (Yanık, 2007)". Creativity; It goes beyond tangible objects such as works of art, books or music and includes ideas, processes and services. Today, creativity is a multidimensional concept that each discipline classifies with different perspectives and definitions. Scientists have put forward various theories and theories to address and explain the creativity process, and these theories

aim to reveal the underlying structure of creativity. One of the foundations of creativity research is the four stages theory proposed by Rhodes (1961) to see how creativity is studied. The theory that synthesizes everything in four main categories is person, product, process and environment/environment. Another concept that is important along with creativity is originality. There is no common definition of the concept of originality in the literature. The origin of the word comes from the word "essence" and corresponds to the word original (original+ity) in English (Burkitt, 1922). These two concepts are very important for both design and designer. The unlimited visual world of artificial intelligence has also become the focus of designers. It is possible to create many graphic design products in seconds with artificial intelligence. This is sometimes done through a single program and sometimes through a single product (texta.ai, logoai. etc.). Limited working hours (deadline), program membership fees, etc. that graphic designers are subjected to. These issues may increase the tendency towards fast and free artificial intelligence applications. This situation can change the designer's normal design process.

The designer can minimize processes such as creativity, analytical problem solving process, aesthetic concerns, prototyping-testing. The important thing here is that the designer improves his creative processes by taking inspiration from artificial intelligence in this process. The artificial intelligence program used can make human creative power lazy. It is clear that ready-made downloads do not require any technical skills. Studies in artificial intelligence programs are created by feeding from many databases. It can be said that it is quite difficult to talk about originality here. It is possible to say that artificial intelligence in graphic design may lead to some creative limitations. While AI algorithms can produce designs based on data and patterns, they still need the human touch that is often necessary to ensure a design truly resonates with its target audience. Additionally, the place of artificial intelligence in graphic design has the potential to affect customer relations. Agencies and clients may have misconceptions about the role of AI, such as fast turnaround times, lower costs, questioning the role of the designer, and issues of originality in AI-generated designs. Expectation management is important here. Clients and agencies should be educated on how AI can complement designers' expertise in their areas of expertise. Open communication about AI during the design process can help increase the trust and satisfaction of clients and agency staff.

3.1.2. Designer Rights and Copyright Issues

The development of AI tools and the algorithms and inputs they use are often inherently highly opaque, naturally leading to concerns about how these tools are implemented (Walker, 2023). While it was stated in the 2021 United State and Australian judicial decisions that only humans can produce copyrightable works and that artificial intelligence will not be considered the producer of the work, a court in China stated that the copyright owner on the work produced by artificial intelligence cannot be the creator or user of the work in question. It has examined whether it can benefit from copyright protection and as a result has reached the conclusion that the work in question is a work that cannot be subject to copyright. Although the work in question will not benefit from copyright protection, the court stated that it will definitely need to benefit from some kind of protection, considering both the way the work

was created and the contributions of the artificial intelligence creator and user in the process, but did not clarify what kind of protection this should be (Gün & Partners, 2021) The European Commission accepted the draft Artificial Intelligence Law prepared in 2021 on June 14, 2023. To improve market functioning within the European Union (EU), to promote the adoption of human-centered and reliable artificial intelligence technology, to ensure a high level of protection of fundamental rights, including health, safety, democracy, the rule of law and the protection of the environment, against the harmful effects of artificial intelligence systems, and Supporting innovation is considered among the main purposes of this law. The artificial intelligence law does not directly contain regulations regarding copyright. The law is expected to become fully applicable in 2025-2026 (European Parliament, 2024). It is possible to say that the relevant law is a regulation that is specific in terms of the use of artificial intelligence technologies in general, is transparent, complies with third party copyrights, and provides deterrent mechanisms by imposing sanctions in case of non-compliance. Laws that have not yet been implemented direct designers to alternative studies. One of these is glaze.

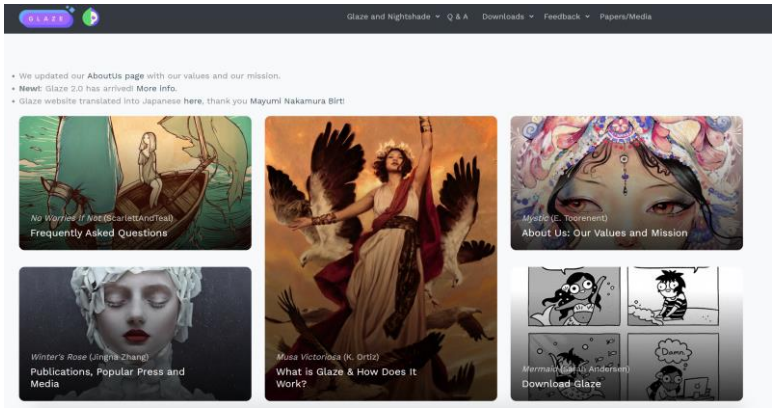

Figure 4. Glaze application a part of view.

Glaze is a research effort that develops technical tools with the goal of protecting human creators against invasive uses of generative AI (figure 4.). The team consists of computer science professors and doctoral students at the University of Chicago. Glaze is developing tools that artists can use to prevent unauthorized AI training on their works.

3.1.3. Prejudice and Stereotyping

Prejudice is the state of making good or bad judgments against any situation, person or society. Stereotypes can be defined as mental structures that divide people into certain classes and ossified cognitive forms that are highly fallible. Stereotypes are broad and intensely held generalizations about members of various social groups. Sources of bias in AI can arise from different stages of the machine learning pipeline, including data collection, algorithm design, and user interactions. Data bias can occur when the data used to train machine learning models is incomplete. This can occur when data is collected from biased sources, is incomplete, or contains errors. Algorithmic bias occurs when the algorithms used in machine learning models have inherent biases that are reflected in their output. Algorithmic bias occurs when an algorithm encodes biases in society (often unintentionally) (Baker & Hawn, 2023). This can happen when algorithms rely on biased assumptions or use biased criteria to make decisions. Prejudice can also be created by users. It may occur when people using artificial intelligence systems consciously or unconsciously introduce their own biases into the system.

This can occur when users provide biased training data or interact with the system in a way that reflects their own biases.

Responsible AI is AI systems that should not lead to any discrimination against individuals or collectives with respect to race, religion, gender, sexual orientation, disability, ethnicity, origin or any other personal status. Many artificial intelligence studies and applications do not have specific filters. In other words, they are used in a way that is open to certain prejudices and stereotypes. A striking instance of GenAI bias was reported, where text-to-image models like StableDiffusion, OpenAI's DALL-E, and Midjourney, exhibited racial and stereotypical biases in their outputs (Nicoletti & Bass, 2023). Below are the results of two different applications. In the first study, when you want to design a poster with the word doctor, only male figures are created, while in the second study, the scientist is associated only with male figures (figure 5.).

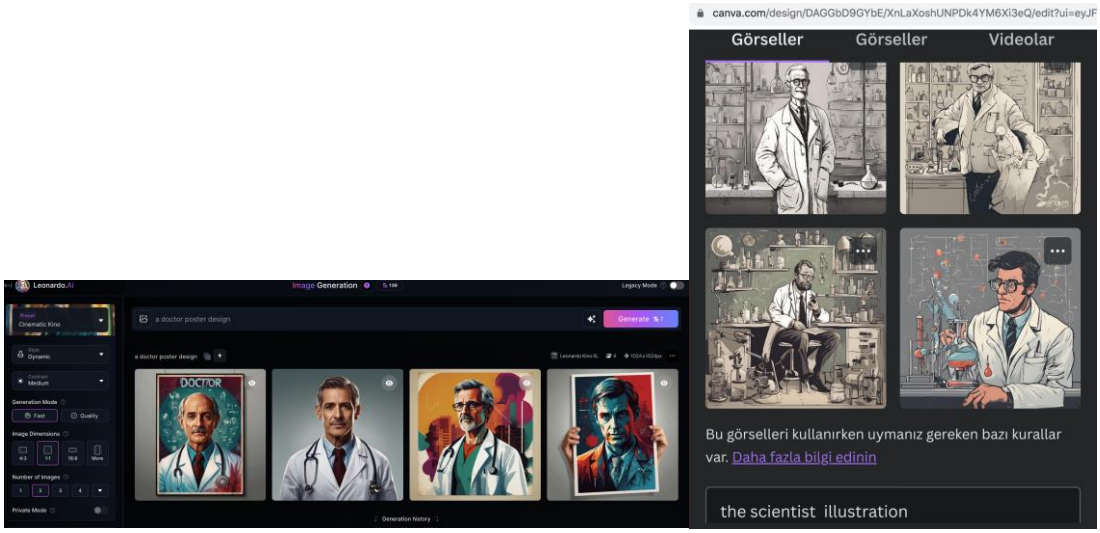

Figure 5. Leonardoai. & Canva ai. prompt results.

A study by the center on gender and leadership analyzed 133 AI systems across different industries and found that approximately 44 percent of them exhibited gender bias and 25 percent exhibited both gender and race bias (Berkeley Haas Center for Equity, 2024). Here, data sets that do not adequately represent different gender identities and have fundamental inequalities should be re-evaluated. It is also very important to collaborate with gender experts. Another study sample was obtained from two different programs. Here it is seen that the keywords slave and worker are associated with black people (figure 6).

Figure 6. Prompt results about prejudice and stereotyping

Artificial intelligence will produce content based on the data it is trained on. At the end of the day, this also shows social stereotypes. "The semantic relationship between racialized terms such as black_man, white_man, black_woman, white_man also depicts the existing social order or hierarchy (Dancy & Saucier, 2019)." Artificial intelligence systems also have difficulty in diagnosing black people (skin cancer detection). It also shows that this system only works on white human samples. In the legal field, risk assessment algorithms exist to assess the likelihood of criminals recidivism. In algorithms used to discover the underlying accuracy of recidivism algorithms and to test whether the algorithm is biased against certain groups, it has been observed that black defendants are much more likely to be judged to have a higher risk of recidivism than white defendants (Larson, Mattu et al. 2016). Current codes of ethics, ethical guidelines, etc. show that AI systems are lacking in attempts to explicitly address the issue of bias and stereotyping. A study found that various demographic groups were better at reducing algorithmic bias (Cowgill, Dell'Acqua et al.). Prejudices and stereotypes existing in society should not be included in the training of artificial intelligence.

The use of AI systems with biases and stereotypes can undermine society's trust in technology, leading to reduced adoption and rejection of new technologies. In this context, negative economic and social consequences may arise. Because if people do not trust the technology or if it is seen as a tool of discrimination, the potential benefits of artificial intelligence may not be realized.

3.1.4. Trust and Social Welfare

Trust in AI largely depends on the user's perception of the ability of the AI system. This depends on the quality of the input data, the mathematical problem representation, and the algorithms used to make the decision. "For an artificial intelligence system to be perceived as trustworthy, five principles must be fulfilled, including beneficence, non-maleficence, autonomy, fairness and explainability" (Dosilovic & Brcic et al., 2018). Usefulness refers to the development, deployment and use of artificial intelligence in a way that is useful. It must respect humanity and the planet and respect basic human rights. Nonmaleficence, on the other hand, means that artificial intelligence is developed, deployed and used in a way that does not harm humans. The principle of autonomy is not directly related to trusting beliefs, but it helps reduce integrity and reliability risks by balancing human- and machine-led decision-making.

Justice is also a broad term that encompasses the use of Ai to correct past inequalities, such as discrimination and prejudice, and to create shareable benefits. Finally, explainability requires building explainable and interpretable AI models while maintaining high levels of performance and accuracy in practical terms and creating ethically accountable Ai. Different guidelines proposed for building ethical and trustworthy Ai have addressed different combinations of these principles. Artificial intelligence can make designers feel unsafe. This situation is triggered by uncontrolled labor theft in the visual and audio fields, visual-based malicious use of artificial intelligence and the active role in disinformation campaigns. Cyber attacks or unreliable sources of information can lead to a decrease in trust in artificial intelligence systems. In particular, factors such as access to information, transparency, explainability, certification, as well as self-enforced standards and guidelines are important to create trust and social welfare in human-machine interactions.

Especially realistic photography works and illustrations are vulnerable to malicious use in moving images in many design works. Deepfake-like works can be created unsupervised in many artificial intelligence-supported visual design programs (child abuse, pornographic images, etc.). Content that may constitute age limits, violence, sexuality, or bad behavior is not subject to a filter in today's artificial intelligence applications. While this situation paves the way for the creation of undesirable events in society, it also poses a danger to the younger generations. Insufficient supervision in practices poses a threat, especially to younger age groups. In Spain, fake nude photos of at least 20 young girls were served to at least 20 young girls without their consent or knowledge, using deepfake, an artificial intelligence application (Euronews, 2023). In addition, pornographic illustrations and character designs made using children are distributed over the internet without supervision. It is clear that such events negatively affect social welfare and threaten the environment of trust and peace. Responsible artificial intelligence has an important position, especially for exhibiting and controlling behaviors that disrupt social welfare and peace. Especially restrictions and filters imposed by technology experts and developers can prevent such negative situations from occurring. Although artificial intelligence is not developed responsibly/ethically/trustworthy, many revisions to laws and regulations are needed to correct the potential risks and problems currently found.

4. CONCLUSION

Artificial intelligence has started to become a part of fields that require creativity. Although this situation provides convenience for designers and artists, it also brings with it some problems. Artificial intelligence programs are used in graphic design, but in the process, which is far from transparency and accountability, there are many risks, from creative and originality problems to designer rights and copyright problems, from prejudice and stereotypes to problems such as trust and social welfare. The inconsistency between social and legal mechanisms and technological developments makes the deployment of artificial intelligence and directing its uses more challenging. It is clear that these powerful computational tools, if not carefully designed and controlled, have the potential to perpetuate and even reinforce existing biases, especially those related to race, gender, and other social structures. Scientists and professionals working on artificial intelligence do not currently have the power to completely direct or control artificial intelligence. Artificial intelligence should not be considered either powerless or irresponsible like an individual. The increasing

effectiveness of artificial intelligence progresses in proportion to its social and community responsibility. Academics and technologists are working to support integrative research to promote socially beneficial developments and address the human and social risks of AI (ITU's AI for Global Good Summit, AI for social good, responsible AI, sustainability, etc.). It aims to contribute to and encourage preventive issues).

Long-term plans should be made taking into account the possible effects of artificial intelligence on future generations. In addition to the obligations of human rights, one must be impartial, ethical and responsible in terms of historical, social, cultural and ethical values in society. Appropriate policies and guidelines should be implemented to protect social values and ethical standards by creating collaboration between designers, technologists and decision makers. Responsible AI; It must be sustainable, without prejudice or discrimination in any way, able to justify accountable decisions and actions. It should also be fair and useful, built with long-term results in mind and meeting sustainable development goals, compliant with laws and regulations, ensuring the protection of user data, providing an understandable, transparent, explainable reasoning process. In this context, responsible artificial intelligence principles should provide a safer and more ethical environment against potential risks and ethical problems.

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