

INTEGRATION OF ARTIFICIAL INTELLIGENCE INTO GRAPHIC DESIGN PROCESSES

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Abstract:

Recent years were highlighted by the development of artificial intelligence (AI) technology that has already become part of our everyday lives, although it has brought many debates in society about its usage.

Quite a few resources on the Internet have built-in neural networks that were trained to work on particular types of tasks. It can be used in different areas of our lives for different purposes. Working well on tasks related to calculation, processing, and managing large amounts of data, it can be seen how AI is advancing. Not just in fields that require logical thinking but also in the area that was thought to be a human prerogative—creativity. A visible impact of this technology can currently be seen in graphic design, which future is already hard to imagine without AI integration. Along with rising capabilities in handling creativity-related tasks, it raises questions about its future influence on the design.

AI tools are able to automate the design process, assist with many routine tasks, generate high-resolution illustrations from the text prompt, and design brand identity elements. They are also able to do a lot of other things that change workflow by taking part of work that previously required much time and attention. Being integrated into applications and web resources with intuitive and user-friendly interfaces, the popularity of AI-based tools such as MidJourney, DALL-E, Ideogram, Recraft etc. is rising more and more. These tools are available for everyone, without skill-level limitations, that allow designers, from students to professionals, create high-quality designs with minimal efforts.

In this conference paper were analyzed the main ways and tendencies of using AI in the design process. It examined how designers can benefit from using it while working on their routine tasks and how it helps to enhance workflow, automating processes and increasing efficiency, despite the problem with possible originality limitations.

Keywords: *Artificial Intelligence, design process, design tools, graphic design.*

Introduction

The active development of artificial intelligence technology in recent years has become one of the most discussed topics. Now, the number of fields where this technology can be used is increasing, including the creative sphere. A visible impact is seen in graphic design. The possibility of using AI in creating visual content raises discussions about the role of designers and the future of the sphere, it makes the topic relevant and important to analyse

Along with the growing popularity of AI in design, the question of how it influences the work process and creativity still does not have a clear answer. However, understanding the potential of AI becomes necessary.

The aim of this paper is to analyze how artificial intelligence is used in the graphic design process and how it affects the work of designers. The object of the research is the integration of AI into the design process.

Methodology

Mainly, the research is based on analyzing existing AI design tools and their applications in branding, logo creation, image generation, etc. To investigate the view of the design community on AI-generated content, were analyzed professional platforms such as Medium, Behance, freelance platforms like UpWork and recent studies on the integration of AI in the design process. The analysis also included a comparison of popular AI tools in terms of usability, visual output, and relevance to real design tasks. Examples of practical use were studied through open cases and posts by designers. In addition, academic publications were reviewed to explore how new technologies, including AI, influence the formation of the design process and creative thinking (Bokarieva & Ippolitova, 2022). Special attention was paid to how AI tools are used not only for technical automation but also as a source of visual inspiration and stylistic experimentation. This helped to assess their role not just as instruments, but as co-creators in the modern design workflow (Muji, Svensson, & Faraon, 2023).

Presentation of Research Results

The biggest advantage AI has, is using it as a design tool that helps to handle routine work such as editing, sorting, working on repeated tasks, etc. It effectively saves time, allowing designers to focus on the creative part of projects (Recraft, n.d.). This tendency can be proved with the launch of Adobe Firefly (Autumn 2024), which provides new features to its software by adding built-in generative AI.

Moreover, recently, AI has shown much higher results than just functioning as a tool. Today's developments in generative AI allow creating images

by converting text prompts into mathematical elements, encoding them as random noise, and generating the image, adding details step by step until the image looks clear (Kolisnyk et al., 2023) (Fig.1). Nowadays, its popularity in creating pictures has increased significantly. Its usage can be very different, from brainstorming to generating high-resolution illustrations and brand elements.

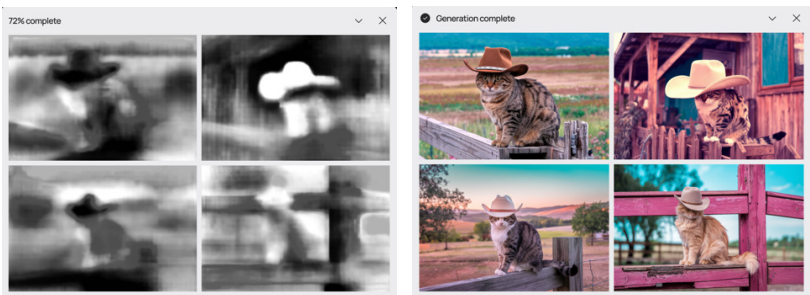


Fig. 1. Example of image generation on the Ideogram.ai web-site

Using its editing skills and ability to recreate human ideas from text can help designers make outstanding projects with fewer resources. For example, the limited-edition release of Nutella Unic in 2017 (Fig. 2), where seven million unique jar patterns were created by a single algorithm to show the uniqueness of Nutella customers (Sobolev, 2017).



Fig. 2. Limited edition Nutella Unic in 2017

Talking about AI usage in graphic design, cannot be skipped its influence on brand design. On resources such as Looka, Fiverr Logo-Maker, Recraft, etc., users can have a few logotypes in seconds after putting in a text prompt and choosing a suitable style (Muji, Svensson, & Faraon, 2023) (Fig. 3).

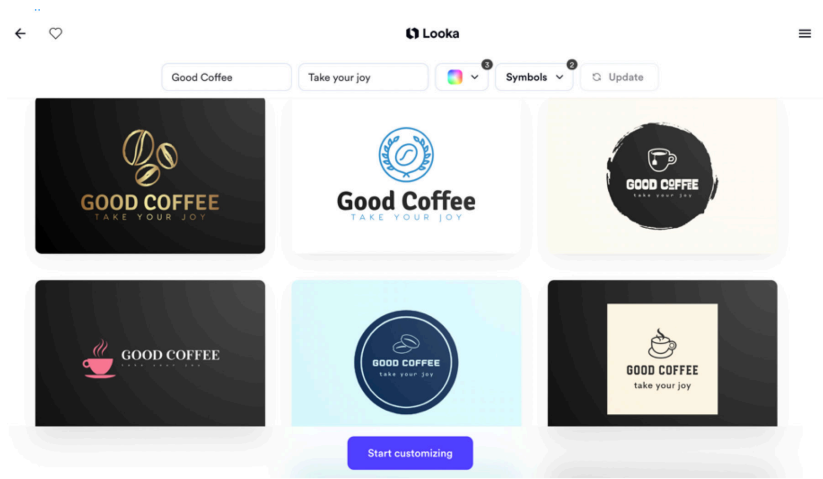


Fig. 3. Example of logo generation on the Looka platform.

It can be used as a good alternative to collaboration that provides an opportunity to look at projects from new angles. Its working speed also can be used for briefing to clarify a client's preferences by quickly adding their remarks (Designveloper, 2024). Furthermore, lately clients show not just examples from other designers that are tasted, but exact ideas that have already been generated on AI platforms and sometimes want designers just to add a few edits. Just a quick look through freelance platforms like UpWork leaves no doubts about it.

But here it appears the main disadvantage of giving AI a main role in the design process. As a mathematical model, AI has limited creativity—it can generate ideas only based on the data it was trained on, but cannot create original ones (Kolisnyk et al., 2023). As a consequence, it is not able to create emotional designs that apply storytelling and brand tone that continue having a value in branding and marketing strategies.

Despite having problems with generating unique ideas, AI algorithms can work with an amount of data that is unreal for humans to handle (Matthews, 2024). This capability helps it generate personalized designs that in-

clude all details and are based on logic, although a person can lose some details or be biased because of feelings, emotions, or previous experience that is not always suitable.

Conclusions

As a consequence, with its own advantages and disadvantages, AI is a very powerful tool that is spreading more and more across different areas, and this fact already can no longer be ignored. Because of this, the most valuable skills to stay relevant in the industry are technical literacy and tool proficiency. In the future, they will be as important in the design process as creativity and original thinking (Recraft, n.d.).

In addition to speed and automation, AI tools are becoming part of the creative process, influencing not only how designers work but also how they think (Bokarieva & Ippolitova, 2022). The question of coexistence between human-made and AI-generated content makes designers reconsider their views on authorship and originality.

Despite existing limitations, such as a lack of emotional expression or uniqueness, AI can still help build effective design strategies, especially in tasks where logic, structure, and speed are prioritized.

Further study is needed to understand how AI will shape visual culture and the professional identity of designers in the long term. However, now it is already clear that the ability to combine creative thinking with confident use of modern tools will be the key to staying competitive.

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