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MOHINUR YUSUPOVA, SHAHNOZA BOBOJONOVA,  
KHALIDA KAMILOVA  
Tashkent Institute of Textile and Light Industry, Uzbekistan

## PROSPECTS OF USING ARTIFICIAL INTELLIGENCE ELEMENTS IN CLOTHING DESIGN DEVELOPMENT

*Objective.* The objective of this study is to identify the possibility of using artificial intelligence elements in the development of design and manufacturing technology for a variety of products in the service industry with minimal human involvement.

*Keywords:* Artificial intelligence, image generation, design.

*Objectives.* Currently, there are various programs available for generating new designs using AI, where humans provide key words for the desired design and receive a logical output. The task of the designer when using such a program would be to verify the results and integrate the design into their project with possible changes according to the client or customer's preferences. Currently, AI is widely applied in all areas of life [1]. Specifically in the field of clothing design, the use of AI can be categorized into three directions [2]: 1. Application of AI to track and forecast new trends that will be relevant to the largest number of consumers. 2. Application of AI to generate and suggest new ideas based on consumer browsing history analysis. 3. Application of AI for autonomous creation of designer solutions.

Sometimes, the search for a creative source can take a significant amount of time, and in such cases, AI applications come to the rescue to generate ideas based on given parameters. For example, if a client requests a Cinderella-style ball gown, the designer can input this description along with other required parameters into the program as text. As a logical result, the designer receives several ready-made sketches and can choose the most suitable one, making adjustments and adding necessary elements if desired by the client for the best outcome [3]. This tremendously saves the designer's time in the sketch development and creative search process.

Currently, there are several programs available for image generation, such as "CALA", "Leonardo AI", "Midjourney", "Deam AI" and others.

**Methodology.** Through the analytical method, it was identified that after receiving a generated sketch, the designer needs to further develop the model using other programs and also propose the construction and characteristics of the suggested material.

**Research Results.** Figure 1 shows an example of the generated image based on text input. The program "Leonardo AI" was used for image generation (Fig. 1a). Subsequently, the obtained sketch was refined using the CLO3D program (Fig. 1b), and the construction and material characteristics were proposed.

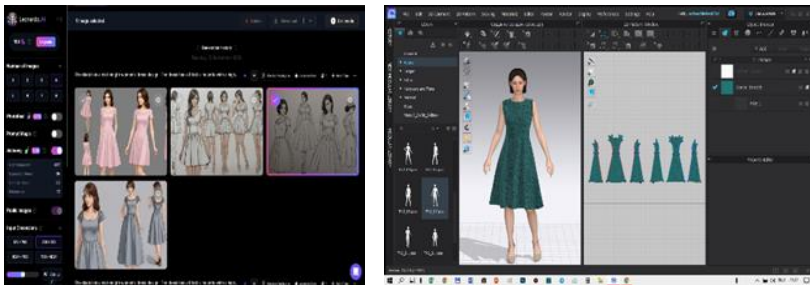


Fig. 1. Image of the collaborative work between AI and the designer:  
 a - generated options; b - refined sketch.

**Conclusion.** The study examined the current AI programs for image generation and various ways of collaboration between AI and designers, which opens up possibilities such as reducing the time and effort spent on creating new clothing models and promoting the development of more innovative and unique designs.

### References

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