

Co-ideation with GAI to develop fashion textiles inspired by Korea's Gaya cultural heritage

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I. Introduction

In 2023, the world's first AI Fashion Week was held, featuring generative artificial intelligence (AI). Participants from various backgrounds conducted online exhibitions showcasing images created by AI. Professional designers and the general public took part in the Fashion Week. Generative AI is utilised in numerous fields, including fashion, and is expected to see widespread use due to its low entry barrier and versatility. Research on fashion design using this technology is still in its early stages. Text-to-image generation AI can create images based on a simple prompt input, allowing for interactions between the AI and the user to generate new images. However, there are issues with copyright, information transmission errors, and cultural biases in the processes and results (Kim, 2024). Research on generative AI in the fashion field has recently started due to increased interest, but it is still at an early stage.

This study aims to explore the interaction between generative AI and designers in the collaborative ideation process for the development of fashion textiles inspired by traditional Korean culture and heritage. The study includes three main components: 1) literature research on Gaya culture and artifacts and the generation of collaborative ideas using AI, 2) design development through collaborative ideas with AI, and 3) a discussion of the process and implications of using AI for collaborative ideation. The results of this study will inform design development and training using generative AI, which is becoming more widely used in the industry.

This study focuses on the ancient Gaya tombs, a traditional Korean cultural site that has been listed as a UNESCO World Heritage Site for 23 years. The Gaya tombs offer significant evidence of East Asia's ancient civilisation and possess outstanding universal value (OUV) (Heo, 2023). Because it is a culture that is not well known despite its importance, understanding the role and potential of an AI platform in developing collaborative design using generative AI is considered appropriate.