

Creative Clothes Design Process by Collaboration
between Human and Machine Intelligence

人間と機械知能の連携による
新たな創造的ファッションデザイン制作過程構築

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Deep neural networks (DNNs) applications are now increasingly pervasive and powerful. However, fashion designers are lagging behind in leveraging this increasingly common technology. DNNs are not yet a standard part of fashion design practice, either clothes patterns or prototyping tools. In this paper, we present DeepWear, a method using deep convolutional generative adversarial networks for clothes design. The DNNs learn the feature of specific brand clothes and generate images then patterns instructed from the images are made, and an author creates clothes based on that. We evaluated this system by evaluating the credibility of the actual sold clothes on market with our clothes. As the result, we found it is possible to make clothes look like actual products from the generated images. Also we propose a method of generation of clothing images for pattern makers using Progressive Growing of GANs (P-GANs) and conduct a user study to investigate whether the different image quality factors such as epoch and resolution affect the participants' confidence score. We discuss the results and possible applications of the developed method. Our findings have implications for collaborative design between machine and human intelligence.

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