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Proposal and Evaluation of Methods for Embedding "Kansei" Information into Images

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Computational Photography (CP) combines plentiful computing and several sensors, enables novel imaging applications and simplifies many computer vision tasks. Its ultimate goal is to encode the human experience in a single captured photograph. However, no previous research regarding the method for the ultimate goal has been unreported. In this research, I try to approach the ultimate goal of CP through the perspective of Kansei engineering, whose features are capable of adapting to various research areas, because Kansei information is related to the human experience. The aim of this research is to embed Kansei information into images to clarify Kansei information and open up novel areas of research.

In this research, there are three proposals and their evaluations: **Embedding method of emotion**, **Input method of Kansei**, and **Expression method of Kansei**. The first proposed method gives someone the impression of a specific emotion by using color effects to convey our emotions in photographs. Its evaluation result confirmed that color information allows changing our expression through photographs. The next proposed method allows the user to input our Kansei information easily using 2D map. Questionnaire results confirmed that a 2D map is effective for the input and visualization of Kansei information easily. The final proposed method converts realistic photographs into graphic designs, using filtering and color conversion selected by specifying an abstract word. Its impression evaluation confirmed that the proposed method allows generating painting-like images with Kansei information.