Abstract Image Search Algorithm Based on Color Histogram

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The previous image search method was searched based on objective similarity. From here, we felt the need for an image search algorithm that can compare subjective similarities. For example, when you want to search famous artwork, you may not remember its name. We devised a method for comparing famous artwork subjectively by drawing it simply. In order to extract formal features from the subjective user's image, we devised an algorithm to compare hue, saturation and value histograms between pictures to be searched. After extracting the histograms of the existing famous artworks, we preprocessed and created a database. After that, we designed the model by pre-processing the user image in the same format and then comparing the main characteristics for each hue, saturation, and value histogram to derive accuracy. As a result, testing our model by 45 test data, 68.8% got the top 10% search rank in 130 available data. It was also confirmed that the similarity was relatively low when it was a black-and-white picture, the color was very monotonous, or very complex. This research is capable of finding approximate similarity rather than absolute similarity. Therefore, even if you do not follow the picture perfectly, you can search within a designated topic. Developing a search platform after further supplementing the search algorithm is our application plan. Not only famous artworks but also various kinds of images such as emojis, landscapes can be applied.

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