

Grading Image Retrieval based on CNN Deep Features

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Abstract—Recent studies show that features from deep layers of convolution neural network can represent the image more strongly. This paper proposes an effective retrieval system to achieve a grading retrieval which contains two stages. In the first pre-screening stage, we propose a novel method to generate both deep binary feature vectors and compressed vectors based on multiple deep layers. And the second refine-retrieval stage refine the retrieval result. Grading retrieval can make full use of the features extracted from different layers. And, the retrieval efficiency is guaranteed by binary features and compressed features in both stages. Experiment based on public retrieval datasets shows that the proposed system markedly improves the retrieval accuracy while enhancing the retrieval efficiency.

Keyword—Binary code, Convolutional neural network, Deep convolutional feature, Feature compression, Image retrieval.



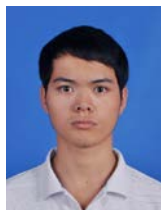
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