Enhancing Sketch-Based Image Retrieval by Re-Ranking and Relevance Feedback

A sketch-based image retrieval often needs to optimize the tradeoff between efficiency and precision. Index structures are typically applied to large-scale databases to realize efficient retrievals. However, the performance can be affected by quantization errors. Moreover, the ambiguousness of user-provided examples may also degrade the performance, when compared with traditional image retrieval methods. Sketch-based image retrieval systems that preserve the index structure are challenging. In this paper, we propose an effective sketch-based image retrieval approach with re-ranking and relevance feedback schemes. Our approach makes full use of the semantics in query sketches and the top ranked images of the initial results. We also apply relevance feedback to find more relevant images for the input query sketch. The integration of the two schemes results in mutual benefits and improves the performance of the sketch-based image retrieval.