

Content-based image retrieval and similarity search has been investigated for several decades with many different approaches proposed. This thesis focuses on a comparison of two orthogonal similarity models on two different image retrieval tasks. More specifically, traditional image representation models based on feature signatures are compared with models based on state-of-the-art deep convolutional neural networks. Query-by-example benchmarking and target browsing tasks were selected for the comparison. In a thorough experimental evaluation, we confirm that models based on deep convolutional neural networks outperform the traditional models. However, in the target browsing scenario, we show that the traditional models could still represent an effective option. We have also implemented a feature signature extractor into the OpenCV library in order to make the source codes available for the image retrieval and computer vision community.