

Abdel-Nabi H., Al-Naymat G., Awajan A. 2019. Content Based Image Retrieval Approach using Deep Learning. Proceedings of the 2nd International Conference on new Trends in Computing Science (ICTCS'19). 9-11 October 2019, Amman- Jordan. Pages 170-177.

## **Abstract**

In a world that seeks perfect results of any search query, an information retrieval system that produces an accurate and relevant output is desired. However, because of the famous semantic gap problem of image representation, a Content Based Image Retrieval (CBIR) system faces some difficulties, since it highly depends on the extracted image features as basis for a similarity check between the query image and database images. This proposed approach overcomes these difficulties with the aid of the most fast growing technology, namely Deep Learning. In addition, it explores the effects of merging the features extracted from the latter layers of the deep network to achieve better retrieval results. The experimental results demonstrate the effectiveness of the proposed scheme in terms of the number of relevant retrieved images of the query results, and the mean average precision, while keeping low computational complexity since it uses an already trained deep convolutional model called AlexNet. Thus in turn, a reduction in the complexity that combines training a deep model from the scratch has been achieved.