CLAIMS

1. A system for image retrieval, the system comprising,

an extraction module coupled to a dataset of one or more image data; the extraction module being configured to extract one or more semantic descriptors from the one or more image data;

a mapping module coupled to the extraction module;

a query topics module coupled to the mapping module, the query topics module being arranged to provide one or more query topics to the mapping module;

wherein the mapping module is configured to receive the one or more semantic descriptors from the extraction module and to map the one or more semantic descriptors to the one or more query topics from the query topics module;

further wherein the mapping module is configured to map the one or more semantic descriptors to the one or more query topics from the query topics module based on a correlation of at least one of the one or more semantic descriptors to the one or more query topics;

further wherein the mapping module is configured to receive ground truth data based on a ground truth subset of the one or more image data and to establish an initial semantic relevance map using the ground truth data and at least one of the one or more query topics;

further wherein the mapping module is configured to use a training subset of the ground truth data to obtain a relevance rate of each semantic descriptor of the training subset based on the one or more query topics; and

wherein the relevance rate comprises a determination of a first number of image data tagged to the each semantic descriptor determined to be positively relevant to the one or more query topics and of a second number of image data tagged to the each semantic descriptor determined to be negatively relevant to the one or more query topics.

2. The system as claimed in claim 1, further comprising the mapping module being configured to obtain a set of node weights of aspect clusters, the aspect clusters being based on semantic descriptors of the training subset of the ground truth data.

3. The system as claimed in any one of claims 1 or 2, further comprising the mapping module being configured to apply the relevance rate to the rest of the ground truth data outside of the training subset, said rest of the ground truth data outside of the training subset being termed a verification set; and the application of the relevance rate to the verification set being to perform image data retrieval from the verification set.

4. The system as claimed in claim 3, further comprising the mapping module being configured to determine, based on the one or more query topics, at least one of whether there is any image data from the verification set that is not retrieved and whether there is any image data from the verification set that is incorrectly retrieved.

5. The system as claimed in claim 4, further comprising the mapping module being configured to expand the training subset based on the determination of at least one of whether there is any image data from the verification set that is not retrieved and whether there is any image data from the verification set that is incorrectly retrieved.

6. The system as claimed in claim 5, further comprising the mapping module being configured to obtain a revised relevance rate of each semantic descriptor of the expanded training subset based on the one or more query topics.

7. A method of image retrieval, the method comprising,

providing a dataset of one or more image data;

extracting one or more semantic descriptors from the one or more image data using an extraction module;

providing one or more query topics;

mapping using a mapping module the one or more semantic descriptors to the one or more query topics based on a correlation of at least one of the one or more semantic descriptors to the one or more query topics;

receiving at the mapping module ground truth data based on a ground truth subset of the one or more image data and establishing an initial semantic relevance map using the ground truth data and at least one of the one or more query topics;

using at the mapping module a training subset of the ground truth data to obtain a relevance rate of each semantic descriptor of the training subset based on the one or more query topics; and

determining a first number of image data tagged to the each semantic descriptor determined to be positively relevant to the one or more query topics and determining a second number of image data tagged to the each semantic descriptor determined to be negatively relevant to the one or more query topics.

8. The method as claimed in claim 7, further comprising obtaining at the mapping module a set of node weights of aspect clusters, the aspect clusters being based on semantic descriptors of the training subset of the ground truth data.

9. The method as claimed in any one of claims 7 or 8, further comprising applying at the mapping module the relevance rate to the rest of the ground truth data outside of the training subset, said rest of the ground truth data outside of the training subset being termed a verification set; and the application of the relevance rate to the verification set being to perform image data retrieval from the verification set.

10. The method as claimed in claim 9, further comprising determining at the mapping module, based on the one or more query topics, at least one of whether there is any image data from the verification set that is not retrieved and whether there is any image data from the verification set that is incorrectly retrieved.

11. The method as claimed in claim 10, further comprising expanding the training subset based on the determination of at least one of whether there is any image data from the verification set that is not retrieved and whether there is any image data from the verification set that is incorrectly retrieved.

12. The method as claimed in claim 11, further comprising obtaining at the mapping module a revised relevance rate of each semantic descriptor of the expanded training subset based on the one or more query topics.

13. A non-transitory tangible computer readable storage medium having stored thereon software instructions that, when executed by a computer processor of a system for image retrieval, cause the computer processor to perform a method of image retrieval, by executing the steps comprising,

providing a dataset of one or more image data;

extracting one or more semantic descriptors from the one or more image data using an extraction module;

providing one or more query topics;

mapping using a mapping module the one or more semantic descriptors to the one or more query topics based on a correlation of at least one of the one or more semantic descriptors to the one or more query topics;

receiving at the mapping module ground truth data based on a ground truth subset of the one or more image data and establishing an initial semantic relevance map using the ground truth data and at least one of the one or more query topics;

using at the mapping module a training subset of the ground truth data to obtain a relevance rate of each semantic descriptor of the training subset based on the one or more query topics; and

determining a first number of image data tagged to the each semantic descriptor determined to be positively relevant to the one or more query topics and determining a second number of image data tagged to the each semantic descriptor determined to be negatively relevant to the one or more query topics.