

View Reviews

Paper ID

38

Paper Title

Biologically-inspired characterization of sparseness in natural images

REVIEWER #2

REVIEW QUESTIONS

1. Detailed feedback to the authors

The authors discuss the idea of sparse representation of visual content. They introduce a sparse coding algorithm which is biologically-inspired by the architecture of the primary visual cortex. Then, a new class of random texture stimuli with a controlled sparseness value inspired by measurements of natural images is designed. Implications of this approach are presented in the paper.

The paper is in general well written and sound. However, I am surprised that no experimental validation is provided whatsoever. Therefore, none of the claimed benefits of this approach in visual systems or computer vision have been validated. The contribution of the paper remains at fundamental level.

Small things:

- "Then, we provide with a method to modify the sparseness statistics observed in any image to match that of some class of natural images." --> ... we provide a method ... ?
- "In this paper, we characterize the distribution of the features' coefficients." --> it is a bit odd to advertise the article with the image caption;
- you may have the http links as footnotes.

2. Clarity of presentation - How well does the author(s) convey his/her ideas?

Good

3. Appropriateness - Is the paper appropriate for EUVIP?

Good

4. Technical content - Does the research meet the technical standards expected for a paper at EUVIP?

Good

5. Overall - The overall score is the primary criteria in determining whether the paper should be acceptedGood

REVIEWER #3

REVIEW QUESTIONS

1. Detailed feedback to the authors

The aims are not clear and the suggested approach is not enough described when some figures are useless (see for example Fig. 1). It is difficult to assess what is really new moreover the suggested approach should be compared with other approaches of the literature (see for example: Extended fractal analysis for texture classification and segmentation of L.M. Kaplan or Texture roughness analysis and synthesis via extended self-similar (ESS) model by Lance M Kaplan, CC Jay Kuo. The use of one single parameter to characterize the roughness (here it is the sparseness) of textures is not new).

Fig. 2 is almost not readable and should be improved.

2. Clarity of presentation - How well does the author(s) convey his/her ideas?

Average