



Call for Papers

Special Issue on “Fine-grained Categorization in Ecological Multimedia”

Pattern Recognition Letters, Elsevier

In the last decades, the extensive research on recognition/classification has mainly focused on distinguishing object classes, which are somehow dissimilar. Recently, the computer vision, machine learning and multimedia scientific community has addressed with increasing interest the problem of fine-grained recognition: it refers to a subordinate level of recognition, such as recognizing different species of animals (e.g., dogs, birds, plants) in different types of multimedia (e.g., audio, images, videos). Of course, this task represents a harder challenge than the “basic” object recognition, because the discriminative features among the object classes are more subtle and difficult to identify. Automated systems performing such tasks might provide significant support to many applications, especially those requiring specialized domain knowledge (e.g. ecology): indeed, most people can easily distinguish between a person playing a clarinet from one holding a clarinet, while it is much more difficult to distinguish between plant types or animal species, where inter-class similarity might be very high. Moreover, especially for the ecological context, the need for such automatic tools has become even greater due to technological advances leading to a massive collection of multimedia content (images, videos and audios) whose analysis still requires the employment of expert human operators.

The list of topics of interest includes, but is not limited to:

- Fine-grained species recognition and classification;
- Fine-grained categorization for environment monitoring and habitat classification;
- Transfer-learning from categories to subcategories;
- Attribute-based techniques for fine-grained categorization ;
- Ontology-based fine-grained visual categorization;
- Part-based models for fine-grained categorization/recognition;
- Fine-grained categorization with humans in the loop;
- Learning of discriminative features for fine-grained categorization;
- Integration/fusion of multi-modal data for fine-grained categorization;
- Novel datasets for fine-grained categorization;
- Novel annotation, crowdsourcing approaches and tools for labeling fine-grained attributes;
- Applications of computer vision and machine learning to ecological data.

Paper submission deadline: March 15, 2015.

Submissions for this special issue must follow the standard submission guidelines of the Pattern Recognition Letters Journal. Submissions are made through <http://ees.elsevier.com/prletters/> (special issue acronym: *FGECO*). In submitting a manuscript to this special issue, the authors acknowledge that no paper substantially similar in content has been published or submitted for publication elsewhere.

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