IEEE Transactions on Pattern Analysis and Machine Intelligence

Call for Papers

Special Issue on Graphs in Vision and Pattern Analysis

Aims and Scope

In the real world, data have diverse structures. While some data, *e.g.*, digital images, have a regular and grid-like structure, a vast majority of data do not. To handle this, the data is usually represented by a graph. Graph has been an important and frequently studied structure in computer vision and pattern recognition for decades. This fact is especially true in recent years, as the development of deep learning and GPU parallelization make it feasible to train neural networks with graph-structured data, bringing about a research boom in graph neural networks (GNNs).

The goal of this special issue is to gather the recent advances of graph learning in computer vision, as well as interdisciplinary efforts on graph-based pattern analysis in sociology, physics, chemistry, finance, biology, medicine, *etc.* Papers which focus on new graph theories and new applications are both extremely welcomed. In the meantime, this special issue features the reproducibility of experimental results reported in the submissions.

Topics and Guidelines

Topics of interest include, but are not limited to:

- Graph neural network and graph convolution
- Representation learning on graph-structured data
- Graph classification and node classification
- Adversarial and generative graph learning
- Transductive and inductive learning on graphs
- Graph learning for image and video recognition, object detection, segmentation, matching and indexing, *etc.*
- Graph learning for geometrical computation, such as 3D understanding and reconstruction
- Specific graph-based models, such as conditional random field, graph attention, scene graph, and-or graph, *etc*.
- Other applications in pattern recognition and computer vision
- Knowledge embedding, learning and transfering
- Relational reasoning
- New datasets and evaluation metrics
- Survey papers regarding the topic of learning with graphs

Before submitting the manuscript, please read the Instructions for Authors for IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI) (https://www.computer.org/web/tpami/author). The manuscript should be submitted to: https://mc.manuscriptcentral.com/tpami-cs.

If you are unsure whether your work is a good fit to the special issue, please contact the guest editors before the submission.

Important Dates

- Paper submission due: October 1, 2019
- First notification: January 1, 2020
- Revision due: March 1, 2020
- Final decision: April 1, 2020
- Publication date (tentative): May 1, 2020

Guest Editors:

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