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Special Track on Graph Models for Learning and Recognition

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Editorial message
Special Track on

Graph Models for Learning and Recognition

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Graphs have gained a lot of attention in the pattern recognition community thanks to their ability to encode both topological and semantic information. Despite their invaluable descriptive power, their arbitrarily complex structured nature poses serious challenges when they are involved in learning systems.

In recent years, due to their widespread applications, graph-based learning algorithms have gained much research interest. Encouraged by the success of CNNs, a wide variety of methods have redefined the notion of convolution for graphs and provided, in particular, a suitable representation for ubiquitous spatio-temporal data.

Typical examples of applications dealing with graph-based representation are: scene graph generation, and action recognition in computer vision; text classification, in natural language processing; forecasting traffic speed, in traffic networks, whereas in chemistry researchers apply graph-based algorithms to study the graph structure of molecules/compounds.

This track as a whole intended to focus on all aspects of graph-based representations and models for learning and recognition tasks.

We received high quality papers from all parts of the world, contributing a total of 17 submissions. The review process was very competitive with each paper receiving at least two reviews. Finally 4 full papers and 2 student papers were selected for the track. 2 papers among the 4 selected fall in the Computer Vision domain with application in *Facial Expression Recognition* and *Learning Football Player Features*. The other papers deal more with theoretical aspects of graph learning architectures: a first paper proposes an operator to limit the number of learnable parameters; the second presents an attention module for graph neural network to perform local pointcloud repairment.

We thank all the authors who submitted valuable papers to this track and we are grateful all the members of the Program Committee. Without their support, the organization of this track would not have been possible. We also express our gratitude to organizations that made this track happen, namely Symposium Program Chairs, the ACM Special Interest Group on Applied Computing (SIGAPP) and Local Arrangement Chairs.