

Preface

Welcome to the 10th IAPR-TC15 Workshop on Graph-based Representations in Pattern Recognition (GbR2015) in Beijing, China, 2015! The series of GbR Workshop is sponsored by the TC15 (Graph-based Representations) of IAPR (International Association for Pattern Recognition), started from 1997. The GbR2015 follows the editions of 1997 in Lyon (France), 1999 in Castle of Haindorf (Austria), 2001 in Ischia (Italy), 2003 in York (UK), 2005 in Poitiers (France), 2007 in Alicante (Spain), 2009 in Venice (Italy), 2011 in Münster (Germany), and 2013 in Vienna (Austria).

Graph is a very effective structure for representing structural patterns and has been widely used in pattern recognition, computer vision, machine learning, and data mining. Structural pattern recognition methods usually represent a pattern as a graph modeling the primitives and their interrelationship. A digital image can be viewed as a graph with its pixels as nodes. Many machine learning methods view sample points as the nodes of a graph for modeling their affinity. Social media and biological data are often represented as graphs or networks. Theory and methods of graph data analysis have been studied intensively for graph generation, matching, labeling, segmentation, clustering, classification, and data mining in various fields. The GbR Workshop encourages all related works from such fields.

The GbR2015 received 53 full submissions. The authors are from Asia, Europe, America, and Oceania. Each submission was assigned to three Program Committee (PC) members for review, and 11 sub-reviewers were invited by the PC members. Based on the reviews, 36 papers were accepted for presentation at the workshop and inclusion in the proceedings. The accepted papers cover diverse issues of graph-based methods and applications, with 7 in graph representation, 15 in graph matching, 7 in graph clustering and classification, and 7 in graph-based applications.

In addition to regular presentations, we invited two established researchers to present keynote speeches. Professor Marcello Pelillo of University of Venice (Italy) and Dr. Xing Xie of Microsoft Research Asia (Beijing, China) will present speeches titled “Revealing Structure in Large Graphs: Szemerdi’s Regularity Lemma and Its Use in Pattern Recognition” and “Understanding Users by Connecting Large Scale Social Graphs,” respectively. We are grateful to the invited speakers, the authors of all submitted papers, the Program Committee members, and reviewers, and the staff of the Organizing Committee. Without their contributions, this workshop would not have been a success. We also thank Springer for publishing the proceedings, especially Mr. Alfred Hofmann and Ms. Anna Kramer for their efforts and patience in collecting and editing the proceedings.

We welcome you to take part in this academic event and hope you find GbR2015 an enjoyable and fruitful workshop.

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