

Preface

This volume contains the Up-and-coming and Short Papers of ILP 2018: the 28th International Conference on Inductive Logic Programming (ILP 2018), held in Ferrara, Italy from Sunday 2nd to Tuesday 4th of September 2018.

Inductive Logic Programming (ILP) is a subfield of machine learning, which relies on logic programming as a uniform representation language for expressing examples, background knowledge and hypotheses. Due to its strong representation formalism, based on first-order logic, ILP provides an excellent means for multi-relational learning and data mining. The ILP conference series, started in 1991, is the premier international forum for learning from structured or semi-structured relational data. Originally focusing on the induction of logic programs, over the years it has expanded its research horizon significantly and welcomes contributions to all aspects of learning in logic, multi-relational data mining, statistical relational learning, graph and tree mining, learning in other (non-propositional) logic-based knowledge representation frameworks, exploring intersections to statistical learning and other probabilistic approaches.

The conference will be co-located with two events:

- ACAI 2018: Advanced Course on AI, a summer school on Statistical Relational Artificial Intelligence, 27th - 31st August 2018;
- PLP 2018: 5th Workshop on Probabilistic Logic Programming, 1st September 2018.

This year the conference included two different tracks: (1) a Journal track publishing new submissions and best ILP 2017 papers in the Machine Learning Journal Special Issue on Inductive Logic Programming - ILP 2017 and 2018, and (2) a Conference track, allowing five types of submissions:

- a. Long papers describing original mature work split into regular papers, accepted for appearing in Springer LNAI conference proceedings [1], and up-and-coming papers, accepted for appearing in these proceedings;
- b. Short papers describing original work in progress not enough mature to be published in the long paper category. Short papers are included in these proceedings;
- c. Works in progress describing ideas and proposals to be discussed with the conference audience;
- d. Papers relevant to the conference topics and recently published or accepted for publication by a first-class conference or journal.

Papers of kind c and d are not included in these proceedings.

We have the pleasure to welcome three invited speakers at ILP 2018:

- William Cohen, Professor at the Machine Learning Department and Language Technology Institute, Carnegie Mellon University, USA:
Using Deep Learning Platforms to Perform Inference over Large Knowledge Bases

- Marco Gori, Full Professor of Computer Science at the Faculty of Engineering, University of Siena, Italy:
Learning and Inference with Constraints
- Maximilian Nickel, Research Scientist at Facebook AI Research:
Hierarchical Representation Learning on Relational Data

Three prizes will be awarded:

- Best paper (supported by Springer);
- Best student paper among regular papers (supported by Machine Learning Journal);
- Best student paper among up-and-coming papers (supported by Machine Learning Journal).

The winners will be announced during the conference and published on the conference website at <http://ilp2018.unife.it/>.

We would like to really thank all the people who contributed to the success of ILP 2018: the members of the organization committee, the members of the program committee, the additional reviewers that have been solicited and the sponsors.

July 2018

Fabrizio Riguzzi
Elena Bellodi
Riccardo Zese

References

1. Riguzzi, F., Bellodi, E., Zese, R. (eds.): Inductive Logic Programming - 28th International Conference, ILP 2018, Ferrara, Italy, September 2-4, 2018, Proceedings, Lecture Notes in Computer Science, vol. 11105. Springer (2018). <https://doi.org/10.1007/978-3-319-99960-9>, <https://doi.org/10.1007/978-3-319-99960-9>

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