Preface

This volume contains the Late Breaking Papers of ILP 2017: the 27th International Conference on Inductive Logic Programming (ILP 2017), held in Orléans, France from Monday 4th to Wednesday 6th of September 2017.

Inductive Logic Programming (ILP) is a subfield of machine learning, which originally relied 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, and more generally for learning from structured data. 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, including exploring intersections with probabilistic approaches.

Three kinds of papers were submitted, and the reviewing process was quite complicated:

1. Regular papers describing original mature work representing a self-contained theoretical contribution and/or supported by appropriate experimental evaluation. Seventeen regular papers were submitted. These papers were reviewed by at least three members of the program committee. Seven were published in LNAI 10759 [1]. One is included in these proceedings.

2. Late-breaking papers describing original work in progress, brief accounts of original ideas without conclusive experimental evaluation, and other relevant work of potentially high scientific interest but not yet qualifying for the regular paper category. Fourteen late-breaking papers were accepted/rejected by the PC chairs, on the grounds of relevance, to be presented at the conference. Each late-breaking paper was reviewed by at least three members of the program committee taking also into account the oral presentation. This has allowed to nominate candidates for the most promising student late-breaking paper. Ten out of fourteen late-breaking papers were invited to submit an extended version, which was a second time evaluated by three reviewers. Five of them have been selected to be included in the LNAI proceedings [1]. Eight papers are included in these proceedings. Two of them are long versions.

3. Recently published papers. Five papers relevant to the conference topics and recently published or accepted for publication in a first-class confer-

ence were presented at the conference. These papers are not included in these proceedings.

We had the pleasure to welcome four invited speakers at ILP 2017:
- Alan Bundy, Professor at the University of Edinburgh: *Can Computers Change their Minds?*
- Marc Boullé, Senior Researcher at Orange Labs: *Automatic Feature Construction for Supervised Classification from Large Scale Multi-Relational Data.*
- Jennifer Neville, Associate Professor at Purdue University: *Learning from single networks—the impact of network structure on relational learning and collective inference.*
- Mathias Niepert, Senior researcher at NEC Labs Europe in Heidelberg: *Learning Knowledge Base Representations with Relational, Latent, and Numerical Features.*

Three prizes have been awarded and the articles are published in [1].
- Best paper (supported by Springer): Gustav Šourek, Martin Svatoš, Filip Železný, Steven Schockaert and Ondřej Kuželka. *Stacked Structure Learning for Lifted Relational Neural Networks.*
- Best student paper (supported by Machine Learning Journal): Sebastijan Dumančić. *Demystifying Relational Latent Representations* (co-author Hendrick Blockeel)
- Most promising "late-breaking" student paper (supported by Machine Learning Journal): Laura Antanas. *Relational affordance learning for task-dependent robot grasping* (co-authors Anton Dries, Plinio Moreno, Luc de Raedt)

We would like to really thank all the persons who have contributed to the success of ILP 2017: the members of the organization committee, the members of the program committee, the additional reviewers that have been solicited and the sponsors.

March 2018   Nicolas Lachiche and Christel Vrain

Reference

[1] Nicolas Lachiche, Christel Vrain (Editors). Inductive Logic Programming - 27th International Conference, ILP 2017, Orléans, France, September 4-6, 2017, Revised Selected Papers. Lecture Notes in Computer Science 10759, Springer 2018, ISBN 978-3-319-78089-4

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    - ICVL Fédération de recherche Informatique Centre Val de Loire
- Publishers and associations
    - Springer
    - Machine Learning Journal - Springer
    - Artificial Intelligence Journal - Elsevier
    - EGC Association Internationale Francophone d'Extraction et de Gestion des Connaissances
    - AFIA Association Française pour l'Intelligence Artificielle
- French institutions
    - Région Centre - Val de Loire (French administrative region)
    - Département du Loiret (Loiret department)
    - Orléans métropole (Orléans city)