7th Symposium on Languages, Applications and Technologies

SLATE 2018, June 21–22, 2018, Guimarães, Portugal

Edited by

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Preface

This book compiles the 19 papers —10 full and 9 short— for the 7th edition of the Symposium on Languages, Applications and Technologies (SLATE'2018), held at Minho University, Guimarães, Portugal, from 21st to 22nd of June.

The Symposium receives submissions covering theoretical and practical (technologies and applications) topics on the large area of computer-based automatic language processing. They focus the different problems that arise when dealing with programming languages, annotation or serializing languages and natural languages, presenting the approaches, methods and techniques that shall be used to cope with them. While the approaches are (usually) different for each subarea, they clearly have clear similarities. So, by tradition, this symposium is organized in three tracks chaired by different researchers and reviewed by distinct program committees.

These tracks are:

HHL Track: *Processing Human–Human Languages* is dedicated to the discussion of research projects and ideas involving natural language processing and their industrial application. In 2018 we have 8 papers in this subarea, being dominant the topics like automatic translation, corpora processing; or sentiment analysis;

HCL Track: In *Processing Human–Computer Languages*, researchers, developers, and educators exchange ideas and information on the latest academic or industrial work on language design, processing, assessment, and applications. In 2018, we have 6 papers under the HCL title on language (and domain specific language) design, grammars, and parsing.

CCL Track: The main goal of *Processing Computer–Computer Languages* is to provide a broad platform for discussion on the XML markup language: examples of usage and associated technologies. In 2018 this track has 5 papers focusing learning environments and automatic program assessment.

I am sure we succeed to gather in this book a selection of valuable articles that will provide an enjoyable reading and that will contribute for the progress of the research on language processing.

As General Chair of SLATE 2018, I want to thank the many people without whom this event would never have been possible. The three track Chairs, *António Menezes Leitão*, *José Paulo Leal*, *Xavier Gómez Guinovart*, Publication Chair, *Alberto Simões* and Advertising Chair, *Maria João Varanda*.

I extend this acknowledgment to all the Members of the Scientific Program Committee for their valuable effort reviewing the submissions and deciding the final list of accepted paper; all the Members of the Organizing Committee for looking carefully after all the details concerned with the tremendous logistics necessary to put up the event; to the invited Speakers, *Kent Pitman*, *Luísa Coheur*, *Nuno Carvalho*, and *José Pereira* that let us learn with their research and experiences; to the Authors that communicate their fully implemented ideas or projects, or their fresh proposals that are intended to be realize in the near future; and finally, to the Participants that made actually the conference happen and be a fruitful forum for the exchange of experiences and know-how.

At last but not least, my acknowledgements go to the Institutional Partners and Sponsors, namely the *University of Minho Engineering School* (EEUM), and in particular the *Computer Science Department* (DIUM); the *UNU-EGOV Operating Unit*, for serving as the venue of the symposium; and *Checkmarx Portugal* for sponsoring the keynotes speakers.

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Pedro Rangel Henriques
Conference Main Chair

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