

Preface

Natural language processing, as a field of artificial intelligence, plays a crucial role in the way machines and humans interact. In the current digital era where a lot of text produced by humans is readable by machines, natural language processing aims to bridge the gap between human communication and digital representation. During the past few years, much attention has been given to natural language processing feeding on recent developments in machine learning (e.g., deep learning) or contributing to the emergence of new machine learning techniques (e.g., word embedding). The applications of natural processing techniques are numerous: machine translation, sentiment analysis, text classification, question answering, argumentation mining, etc., each contributing to the success of various businesses.

This volume contains the long papers, short papers, posters/demonstrations, and extended abstracts for the keynotes of the 22nd International Conference on Applications of Natural Language to Information Systems (NLDB 2017), held from June 21st to 23rd, 2017, in Liège, Belgium.

NLDB is the flagship conference for multidisciplinary research combining the fields of natural language processing and information systems. Previous editions of NLDB took place at Versailles, France (1995), Amsterdam, The Netherlands (1996), Vancouver, Canada (1997), Klagenfurt, Austria (1999), Versailles, France (2000), Madrid, Spain (2001), Stockholm, Sweden (2002), Burg, Germany (2003), Salford, UK (2004), Alicante, Spain (2005), Klagenfurt, Austria (2006), Paris, France (2007), London, UK (2008), Saarbrücken, Germany (2009), Cardiff, UK (2010), Alicante, Spain (2011), Groningen, The Netherlands (2012), Salford, UK (2013), Montpellier, France (2014), Passau, Germany (2015), and Salford, UK (2016). It is estimated that 80% of Big Data is unstructured, which highlights the deep impact that natural language processing has on processing large amounts of data and extracting signals that can be utilized in information systems. As such, the NLDB conference series helps advance research by pioneering new natural language processing techniques and their emerging applications in information systems.

The NLDB 2017 edition received 125 submissions, out of which the Program Committee selected 22 full research papers (18% acceptance rate), 19 short papers (33% acceptance rate), and 16 posters/demonstrations (46% acceptance rate). The accepted papers have been grouped into the following nine topics: Feature Engineering, Information Extraction, Information Extraction from Resource-Scarce Languages, Natural Language Processing Applications, Neural Language Models and Applications, Opinion Mining and Sentiment Analysis, Question Answering Systems and Applications, Semantics-Based Models and Applications, and Text Summarization.

The excellent program would not have been possible without the support of the many people who helped with the organization of this event. We would like to thank Satoshi Tojo (Japan Advanced Institute of Science and Technology, Japan) and Mihai Surdeanu (University of Arizona, USA), who accepted to be our keynote speakers.

We also would like to thank Manon Crélot and Kim Schouten for building and maintaining the website. We are grateful to Truong Son Nguyen and Duc Vu Tran for their help and assistance in producing the proceedings. Special thanks to Gosse Bouma, Pierre Dupont, Pierre Geurts, Farid Meziane, Michael Schyns, and Antal van den Bosch for their advice and help with the organization. In addition, we thank the reviewers for their hard work that allowed us to select the best papers to be presented at NLDB 2017. Last, but not least, we would like to thank the authors who submitted their work to this conference and all the participants who contributed to the success of this event.

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