Preface

Legal scholars and practitioners are feeling increasingly overwhelmed with the expanding set of legislation and case law available these days, which is assuming more and more of an international character. For example, European legislation is estimated to be 170,000 pages long, of which over 100,000 pages have been produced in the last ten years. Furthermore, legislation is available in unstructured formats, which makes it difficult for users to cut through the information overload. As the law gets more complex, conflicting, and ever changing, more advanced methodologies are required for analyzing, representing and reasoning on legal knowledge.

The management of large repositories of norms, and the semantic access and reasoning to these norms are key challenges in Legal Informatics, which is experiencing growth in activity, also at the industrial level. Specifically, it is necessary to address both conceptual challenges, such as the role of legal interpretation in mining and reasoning, and computational challenges, such as the handling of big legal data, and the complexity of regulatory compliance.

The development of NLP techniques and semantic technologies for automatic analysis and indexing of big data freely available on the web has created opportunities for building new approaches to improve the efficiency, comprehensibility, and consistency of legal systems. Semantic analysis aims at relating syntactic elements – which could be phrases, clauses, sentences, paragraphs, and whole documents – to their meanings in a given domain, including meanings specific to legal information. On the one hand, in recent years the EU has delivered huge amounts of resources on EU law in many languages (such as, EuroParl, JRC, etc.). On the other hand, the matured NLP and Semantic Web technology provides a good inventory: for formalizing the law data in the form of domain ontologies; for automating the process of relevant knowledge extraction from legal documents; and for representing it in form of Linked Data in RDF. This will support legal reasoning tasks such as better search possibilities, compliance checking and decision support, as well as a better presentation of the legal information to professional and non-professional stakeholders.

The aim of MIREL 2019, the fourth edition of the workshop, is to bridge the gap between the community working on legal ontologies and NLP parsers and the community working on reasoning methods and formal logic, towards these objectives described above.

The contributions submitted to MIREL 2019 have been peer-reviewed by at least two members of the Program Committee. The accepted papers, presented here in these Workshop Notes, were accepted based on their quality, relevance to the workshop topic, and their potential to bring forward interesting ideas to be discussed at the workshop.

Thanks to the invaluable and much appreciated contributions of the authors and the Programme Committee, MIREL 2019 provides participants with an opportunity to position their contributions with respect to one another. Hopefully, this will contribute to the development of a truly interdisciplinary research-community around the different aspects and problems of Legal Informatics.

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Giovanni Casini, Luigi Di Caro, Guido Governatori, Valentina Leone, Réka Markovich