



Thirty years of *Artificial Intelligence and Law*: Editor's Introduction

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Abstract

The first issue of *Artificial Intelligence and Law* journal was published in 1992. This special issue marks the 30th anniversary of the journal by reviewing the progress of the field through thirty commentaries on landmark papers and groups of papers from that journal.

Keywords Artificial intelligence · Law · Legal knowledge representation · Legal reasoning

1 Introduction

Artificial Intelligence and Law began to establish itself as a small but distinct sub-field of research during the 1980s. The first International Conference on AI and Law (ICAIL) was held in Boston in 1987, and in alternate years thereafter. The first JURIX was held in 1988: originally intended as a venue for the various AI and Law groups in the Netherlands, JURIX developed into an increasingly international event, held annually. These conferences provided excellent opportunity to exchange emerging research ideas, but there was no obvious venue for more extended articles providing definitive reports of mature research. Such reports were made in a number of different journals: these included Law reviews (e.g. McCarty 1976) and general Computer Science venues (e.g. Sergot et al. 1986; Ashley and Rissland 1988) and there were also some monographs (e.g. Gardner 1987; Ashley 1990). Selected papers from the 2nd ICAIL were published in extended versions in two special issues of *International Journal of Man Machine Studies*¹ (Rissland 1991a, b). This suggested a need for a dedicated journal, and other areas of AI had started their own journals (for example, *Artificial Intelligence in Medicine* was first published in

¹ Since renamed the *International Journal of Human Computer Studies*.

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1989 and *Artificial Intelligence in Engineering* in 1986). With all this in mind, and with the International Association for AI and Law established in 1991, Don Berman and Carole Hafner, who had been leading movers behind ICAIL, founded the journal, originally published by Kluwer². The journal was launched with four issues published in 1992.

Don Berman and Carole Hafner were the original co-editors. In 1995 they were joined by Giovanni Sartor. Don died in 1997, and was replaced in 1999 by Kevin Ashley. Carole retired in 1999 and was replaced in 2000 by Anja Oskamp. Anja retired from her post in 2009, and was replaced by Trevor Bench-Capon in 2011. In view of the increasing number of submissions to the journal, a fourth editor, Matthias Grabmair, was added in 2022. The journal has thus been able to maintain a good deal of editorial continuity over the years.

The aims of the journal were set out by Berman and Hafner in an editorial in the first issue:

The purpose of *AI and Law* is to provide a forum for sharing research results, problems, and ideas about computational models of law and legal reasoning, applications of AI in the legal domain, and the impact of legal AI systems on the legal profession and society.

and this has been the guiding principle of the journal throughout its lifetime. *AI and Law* has become established as the *de facto* journal of record for the field and has published many important papers. Thus the papers of the journal provide an excellent way of tracing the development of the field. To mark the thirtieth volume, we have collected together thirty commentaries on work published in the journal. Members of the Editorial Board were invited to suggest papers on which they would write a commentary. As such the papers discussed in this issue do not attempt to provide an exhaustive coverage of all aspects of the field, since they are the personal choices of a group of individuals. None the less, since the Board contains people interested in a number of different aspects of AI and Law, they do address many of the most important topics, and are drawn from all periods of the journal: three are from the very first issue, and the most recent is from last year. The commentaries are presented in chronological order, with a separate paper of this issue for each of the three decades. Each decade has something of its own flavour. In addition there is a paper of overviews where a topic was not best represented by a single paper.

The first decade saw a subject in the process of establishing itself, and identifying the main topics. The very first issue covered three topics that have been central to the field ever since: reasoning with legal cases (Skalak and Rissland 1992), representing legal knowledge (Bench-Capon and Coenen 1992) and the modelling of deontic concepts (Jones and Sergot 1992). Deontic modelling was also the topic of Sartor (1992), while reasoning with legal cases was also the topic of Hage et al. (1993) and Prakken and Sartor (1998). Modelling legal knowledge received more attention in the second decade with the growth of interest in ontologies. Another

² The present publishers, Springer, took over in 2004.

main theme in the first decade was the use of dialogues to model legal procedures: a landmark paper on this topic was Gordon (1993), but dialogues were also central to Hage et al. (1993) and Prakken and Sartor (1998). Work on dialogues typically involved arguments and argument moves: these were an important part of Skalak and Rissland (1992), but also the topic of Loui and Norman (1995). Throughout the decade there was also interest in sub-symbolic methods, represented here by Stranieri et al. (1999): these techniques have become far more prevalent in the last few years.

As mentioned above, the second decade saw an increase in activity regarding the representation of legal knowledge, especially through the use of ontologies, as in Breuker et al. (2004) and Sartor (2006). Interest in ontologies was driven by the need to organise and access the dramatically increased quantity of information made publicly available on the world wide web. The availability of this information was also exploited to enable applications using document corpora such as document summarisation (Hachey and Grover 2006) and argument mining (Mochales and Moens 2011). Argumentation became established as a central topic, often based on the use of argumentation schemes (Verheij 2003), which replaced dialogues as the standard way of modelling argument moves. Reasoning with legal cases, however, remained perhaps the most central topic and is represented here by four papers: Hafner and Berman (2002), Ashley and Brüninghaus (2009), Atkinson (2012) and Horty and Bench-Capon (2012). These four papers illustrate the considerable strides that were made in understanding and modelling reasoning with legal cases during this decade.

The third decade was marked by the rise of machine learning approaches to AI and Law tasks. Although the first two papers discussed concerns continuing from the previous decade, ontologies (Francesconi 2014) and accessing information (Boella et al. 2016), the remaining six all make use of advanced Machine Learning techniques. Two address the prediction of legal cases (Medvedeva et al. 2020), and the explanation of these predictions (Branting et al. 2021), but the remaining four consider a variety of other tasks. Abood and Feltenberger (2018) looks at the specialised task of patent landscaping, Nguyen et al. (2018) and Tagarelli and Simeri (2021) address the retrieval of legal documents and Ruggeri et al. (2022) attempts to automatically detect unfair clauses in Terms of Service agreements. These papers illustrate the many possibilities for these approaches, especially now that they can be applied directly to the natural language rather than to feature vectors as in the first decade.

The final paper in this issue discusses four groups of papers. Two look at the development of particular topics, ontologies and reasoning about evidence. One looks at the work of a prolific contributor to the journal, Doug Walton, whose work on argumentation schemes had a profound influence on work on how argument is thought about. Finally we have a discussion of work in the journal which has reported on practical developments.

Taken together the papers in this special issue provide an insight into how the concerns of AI and Law have responded to advances in understanding and technological developments while maintaining a focus on the use of Artificial Intelligence to support legal tasks. We hope that we have lived up to the aims expressed by the original editors in their editorial in the first issue quoted earlier.

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Declarations

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