**LAW AND ARTIFICIAL INTELLIGENCE IN ASIA**

**法律与人工智能在亚洲**

**Editorial**

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The Internet of things (IOT), big data and artificial intelligence (AI) are the basic components

of the new industry and complement each other. The IOT is constantly generating data; data are economically valuable, even considered the “oil” or means of production of the twenty-first century; the processing, analysis, and utilization of data require AI. Here, there is a significant positive correlation between data and AI: the larger the scale and the higher the quality of the data, the stronger the effectiveness of AI. The huge population in China and the diversified applications in e-commerce, online finance, and mobile phones make China the world’s largest data-output country with the largest scale of the bigdata industry. This lays the foundation for the development of AI. The 5G mobile communication system, as a hub and device, further strengthens the interactive relationship between the IOT, big data, and AI, forming a new type of social communication and operation system with low power consumption. In addition, the culture of Japan and other East Asian countries is mostly pantheistic. They also have an optimistic and friendly attitude towards robots. Osamu Tetsuka’s anime “Astro Boy” stands in sharp contrast to the terrifying and tragic atmosphere in the science-fiction movie series Terminator directed by James Cameron. Therefore, countries in Asia (at least East Asia) have the advantage of promoting and popularizing big data and AI.

From a legal perspective, big data and AI constitute a rule-embedded system. Therefore, Professor Lawrence Lessig points out that “code is law” several times in his classic book on Internet law, Code. As an extension of this proposition, algorithms are thought to be laws that can govern social actions. China’s Alibaba Group launched the Sesame Credit Rating System, which shows examples of AI scoring people to determine their eligibility for loans, car rental, house purchasing, and even their employment and promotion. The Joint Punishment Mechanism of Dishonesty connects sesame credit with courts and lawenforcement authorities, which affects the judgment and implementation of law. In Singapore and South Korea, the online-trial mechanism has developed to a relatively high level. On 2 April 2019, the “Guangzhou 5G Wisdom Court Construction Strategic Cooperation Agreement” was signed, marking the official start of the construction of China’s first 5G smart court. Predictive police activities, which started in Chicago, US, have been comprehensively applied in China, and their efficiency has been greatly improved due to the grid and three-dimensional management. However, the dispute over the “face-swap” agreement of image software company ZAO’s in June 2019 and the first case of face recognition in October 2019 revealed the risks of data capture and abuse from the perspective of human-rights protection, highlighting the tension between the modern rule-of-law system and AI technology.

The above facts and social trends are the background for planning a Special Issue on big data, AI, and laws in Asia in the Asian Journal of Law and Society, and also show the academic value and practical significance of the topic. Since the 30th Anniversary Conference of the O˜nati Institute of International Law and Sociology and the Annual Conference of the Research Committee on Sociology of Law (RCSL) were jointly held in June 2019, I hoped to organize a symposium on “Big Data, AI and Judicial Service Across Generation” and solicit contributions, which has received positive responses from Professor Zuo Weimin, Professor Cheng Jinhua, Professor Yang Li, and Associate Professor Yang Fan. In order to expand the scope of participants and make international comparisons, I sent an e-mail to Håkan Hydén, Professor Emeritus in Sociology of Law, Lund University, on 19 November 2018, inviting him as co-chairman to jointly call for papers and received his full support. In recent years, Professor Hydén has shown a strong interest in AI algorithms as a social norm, and has a strong willingness to promote collaborative research in this area between Europe and Asia. A month later, he told me that several young researchers decided to attend the Symposium with him and deliver a speech, and sent me the abstracts of the speeches by Associate Professor Stefan Larsson, Associate Professor Pedro Fortes,Lecturer Ulrika Wennersten, Postdoctoral Researcher Ekaterina de Vries, etc. For visas and other reasons, most of the Chinese-speakers were unable to attend the O˜nati Conference, but some submitted papers later. All the European participants were present, which ensured the success of the two thematic sessions. To this end, I would like to pay special tribute to Professor Hayden and his team.

At the O˜nati Conference held in June 2019, I met with Professor Shozo Ota from the Law School of the University of Tokyo in Japan, whom I had not seen for a long time. We discussed the possibility of conducting China–Japan collaborative research in the field of laws, big data, and AI, and I introduced the idea of a special issue in the Asian Journal of Law and Society. He warmly introduced the Japanese researchers Professor Katsumi Nitta and Professor Ken Satoh and promised to invite them to submit contributions. Later, he proposed that we jointly organize a group session on AI and justice, entitled “AI-Assisted Court System: How AI Can Help Judges, Lawyers and Litigants” at the Asian Law and Society Association (ALSA) Osaka Seminar in December 2019. Professor Cheng Jinhua, Yang Li, and I went to Osaka to attend the group session and delivered speeches. Speakers from Japan, in addition to Professor Ota from the law major and Professor Yoshinobu Kano from the information-science major, introduced the research findings of using judicialexamination data and legal provisions for machine learning to explore the deep structure of legal reasoning.

Based on the speeches at several group sessions of the above international symposiums, we selected eight papers for the Special Issue. Professor Håkan Hydén’s masterpiece “AI, Norms, Big Data, and the Law” makes clear the theme from the very beginning by examining the significance and scope of the sociology of law research on big data and AI from a macro perspective, and puts forward such new basic concepts as technical norms that are in contrast to social norms, including algo-norms and the second order of normativity involving law and the order of various social subsystems, and a series of issues that have led to changes in social governance. Algorithms can affect people’s daily life as norms, but people cannot influence algorithms through democratic procedures. In this sense, digital information technology, represented by AI, is a revolutionary technology that is causing profound changes in the relationship between the state and the individual. Professor Hydén believes that, in order to understand the corresponding social changes, it is necessary to promote the sociology of law research on algorithms, so as to expand the scope of theoretical frontiers and empirical analysis to explore the impact of digital technology on systems and order from the perspective of social science. The goal pursued by the modern legal order is predictability and certainty, but the networking and in-depth learning of AI make unexplainability and uncertainty major features of algorithm norms. This means that a paradigm shift must be carried out in social governance and institutional design, and more attention should be paid to the role of trial and error in the legal order. The establishment of the “Special Economic Zone” is an important invention of China’s reform and opening-up. Japan has learned from this experience and applied it to the development of AI. Professor Hydén sees such a special zone (Tokku) as a “living lab” for decision-making. From the perspective of the trial-and error process, the development orientation of AI and algorithms should not foster a regulated economy, but be market-friendly.

Associate Professor Stefan Larsson’s paper “On the Governance of Artificial Intelligence through Ethics Guidelines,” based on the Guidelines for Trustworthy Artificial Intelligence presented by the European Commission’s High-Level Expert Group in April 2019 and the European Commission White Paper on Digital Strategy and Artificial Intelligence released in February 2020, analyzes the basic concepts, main content, and impact on the legal system of European AI governance, especially the combination of hard law and soft law. This paper focuses on the manifestation of human-centred AI governance in the social structure and interaction process, points out the main challenges of technological innovation to legal and social change, and emphasizes the relationship between big data and AI, and the need for interdisciplinary research on the transformation of social-governance paradigms. This article also cites the ethics, policies, and legal norms of AI governance in China and Japan as examples to compare the basic framework and mechanism design between Europe and Asia. On 25 May 2019, the Beijing Consensus on Artificial Intelligence was jointly released by Beijing Academy of Artificial Intelligence (BAAI), Beijing University, Tsinghua University, Institute of Automation of Chinese Academy of Sciences, Institute of Computing Technology of Chinese Academy of Sciences, and Artificial Intelligence Industry Technology Innovation Strategic Alliance (AITISA). From the three aspects of research and development (R&D), use, and governance, the following 15 guidelines were proposed in the Beijing Consensus on Artificial Intelligence: benefiting people, serving people, being responsible, controlling risks, being ethical, being diverse and inclusive, being open and sharing, using AI wisely and properly, informed consent, education and training, optimizing employment, harmony and co-operation, adaptation and moderation, refinery and implementation, and long-term planning. The Rule of Law Forum of the World Artificial Intelligence Conference held on 30 August 2019 also released the Blue Book on World Artificial Intelligence Rule of Law and Guidelines for the Security and Legal System of Artificial Intelligence. Japan’s AI R&D guidelines put forward five major concepts: human-centred, international sharing, benefit-and-risk balance, technology neutrality, and emphasis on soft law. By comparing Europe with Asia, it can be found that the international community has reached some basic consensus on the principles and policies of AI R&D and governance.

Associate Professor Pedro Fortes’s paper, “Paths to Digital Justice: Judicial Robots, Algorithmic Decision-Making, and Due Process,” analyzes the impact of information technology, big data, and algorithm-based decision processes on justice, including development of legal AI such as online dispute-resolution systems, criminal recidivism risk assessment and early-warning technology, and robot judges. The author believes that, although the digitization of justice is necessary and practical, it is not necessary to radically advocate the automation of legal judgments, but to analyze and monitor the algorithm in accordance with the principle of procedural justice. To this end, he, based on the US Correctional Offender Management Profiling for Alternative Sanctions (COMPAS), reveals the systematic deviations of big data and the resulting algorithmic discrimination or otherwise in the risk assessment. He points out that the key lies in using the principle of procedural justice to avoid the algorithms’ black box and the neo-collectivist labelling of convictions and sentencing, so as to ensure controllable and interpretable AI and tailored justice.

The above three papers provide a general analysis framework and an international comparative perspective. Next, we will look at the progress of research on big data, AI, and law in Asia. As China attaches great importance to the application of AI in judicial and law enforcement, with unique advantages in data collection and analysis, it has been very active in the research of this area in recent years. The papers of several scholars analyze and discuss China’s experience and its theoretical significance from different aspects. Japan leads the way in the research and production of robots, and has long-term deep research on legalreasoning expert systems and legal information technology. Singapore has hugely promoted the digitization of justice, and South Korea also has some good practice. Unfortunately, we have not found a suitable contributor for the time being. I hope we can make up for it in the future.

The paper co-authored by Japanese scholars Katsumi Nitta and Ken Satoh comprehensively introduces the Japanese experience of applying AI to the legal field. They first introduce the legal-expert-system research included in the national project of the fifth-generation computers launched in Japan in 1982, and the research project of the legal expert system initiated by Professor Hajime Yoshino in 1985, focusing on the analysis of his team’s contribution to the development of algorithms for legal reasoning and an intelligent consulting system for patent law. Since 2007, JURISIN, an international workshop on legal informatics, has replaced the above projects as the main platform for AI and legal research in Japan, and, since 2014, it has jointly organized COLIEE, an innovation contest on legal informatics. This series of organized research activities developed several auxiliary AI systems to support legislation, justice, and legal services.

The paper by Chinese scholar Professor Weimin Zuo and his collaborator Chanyuan Wang examines China’s judicial big data and legal research based on big data. The authors grasp the significance of big-data legal research from the perspective of legal empirical research. They believe that judicial big data such as online judgments formed in the context of transparent decision-making will become a new resource for empirical research and will cause a revolutionary change in the legal-research paradigm. However, they emphasize that large amounts of data and structured data after official processing are not equivalent to big data. It is necessary to pay attention to the science of the mining and analysis of big data, strengthen the correction of incomplete large amounts of data, and emphasize the complementary relationship between “small data” obtained through sampling surveys and big data, and the significance of statistical analysis, machine learning, and other methods.

My paper, “The Change of Judicial Power in China in the Era of Artificial Intelligence,”focuses on calm thinking in the trend of AI. The lawsuit explosion and the unification of the legal system are important reasons for China’s judicial authorities to actively adopt new information technologies such as the Internet, big data, cloud computing, and AI. From Shanghai to Guizhou, courts across the nation are trying to ease the backlog of cases by sorting out simple cases from complicated ones, verifying the maximum annual case-load of judges, strengthening assessment accountability, and adjusting the ratio of judges to trial assistants, and reduce the burden of mechanical labour and improve the speed and quality of processing materials and data by using computer information-retrieval systems and other auxiliary means. The “smart courts” are indeed conducive to improving judicial efficiency and the justice of “treating like cases alike.” However, if AI is allowed to go beyond the scope of auxiliary means to try cases and even replace the judgment of judges to a large extent, it is likely to lead judicial power astray.

Practices such as allowing AI to automatically generate judgments and correct deviations of legal decisions based on big data are bound to inevitably form a dual structure of trial subjects, and even lead to the multiplexing of decision-makers. A situation in which programmers, software engineers, data processors, and information-technology companies will jointly make a decision with a judge may even appear. Once the trial subject and the decision-maker are difficult to specify, the power boundary becomes blurred, and the judicial accountability system is likely to become a matter of form; at least, the possibility of passing the buck has been greatly increased. More importantly, big data and AI will become the “guillotine” of court debates, creating an atmosphere that “everything depends on the established algorithm, while face-to-face conversational argument is not important,” making China’s weak legal reasoning, legal argumentation, and legal interpretations even more insignificant. This leads to a fundamental change in the structure and function of the modern judicial process.

Yaohui Jin and Hao He have proposed in their paper on “An Artificial Intelligent-Based Semantic Assist Framework to Judicial Trial” an AI-based trial semantic assistance framework based on the practice of speech recognition, text processing, and image classification in some local courts in China, allowing information extraction and machine learning to achieve coherent and consistent logic in standardized texts, case scenarios, sanction conditions, and the reasons for the judgment. The computing and characterization capabilities of AI are continuously strengthened, but the interpretability of models declines. This paper aims at the above practical issue, especially the legal issues that cause the failure of the accountability mechanism, trying to break through the bottleneck of the algorithm manipulation and provide the necessary logical interpretation for the data processing and output so as to achieve the goal of interpretable AI.

The starting point of the paper on “Big-Data Measurement-Model Research about Judges’ Actual Workload in China” by Li Yang, Junlin Yi, and Hui Peng is the practical needs of increasing the number of litigation cases and the judicial staffing-system reform in China in recent years. In order to improve judicial efficiency and determine a reasonable number of judicial posts, it is necessary to measure and evaluate the trial workload and performance. Since cases vary in difficulty and the judicial establishment and funding vary greatly from place to place, it is very complicated to determine the number of judicial posts and assessment standards based on workload. This paper proposes a model for calculating the weight of cases and the workload of judges, especially the average annual workload based on judicial big data, through the investigation and study of the actual practice of the local courts and the analysis of the measurement standards of the Supreme Court, and tries to serve as the basis for the staffing-system reform.

The focus of George G. Zheng’s paper on “China’s Grand Design of People’s Smart Courts” is that, while other countries are actively using information communication technology (ICT) for informal dispute resolution and focusing on the development of online dispute resolution, China is focusing on the Internet and AI to improve the formal dispute resolution, namely the judicial field. The author believes that the algorithm obviously helps to strengthen the rigidity and uniformity of the application of the law, and also strengthens the binding force of past cases under the guidance of the principle of the same judgment of similar cases. Especially in criminal trials, through the application of ICT, the processes of collection, proof, and argumentation of evidence have become more standardized, improving the precision and integration of justice. It is necessary to point out that, although there are technological innovations such as the Libra Chain agreement in judicial aspects, the overall result of legal-technology innovation is to further strengthen the inherent structural attribute of judicial hierarchy in China. Digital approaches such as big data and AI seem to make the pyramidal control of trial activity more efficient, through case assignment, performance appraisal, and judicial accountability.

The worldwide epidemic of the COVID-19 virus since January 2020 has severely impacted the global economic system and the international order. A series of emergency measures to prevent infectious diseases have suddenly made isolation and segregation a feature of daily life in today’s society. Against this background, existing bureaucratic organizations appear to be in a dilemma, and emerging ICT further performs the function of pooling and distributing information, resources, and materials. In China, it is mobile payment, online shopping, takeaway, self-media, MOOC, video conferencing and online offices, etc. that have reconnected self-isolated people with quarantined people, thus forming some kind of flexible organization and virtual community, and constructing the platform of community-based governance in an interconnected manner. The investigation of travelers from epidemic areas and suspected patients, the monitoring of quarantined persons, the analysis of treatment cases, and the prediction of the development of the epidemic all require the use of big data, AI, blockchain protocols, distant thermometers, drones, and other technological means, so as to make the operation of the government more and more intelligent.

In a certain sense, the outbreak of the COVID-19 virus has promoted a great transformation, and the innovation of national governance for e-government and network government is speeding up. This institutional change further proves the practical significance of our Special Issue. We hope to take it as an opportunity to further promote the application of new technologies such as big data and AI in social governance, and explore in depth the possibilities of the state- and legal-paradigm innovation.

**编者按语**

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物联网、大数据以及人工智能是新型产业的基本构成因素，并且相辅相成。物联网不断产生数据；数据具有经济价值，甚至被认为是二十一世纪的“石油”或者生产资料；而数据的处理、分析以及利用需要人工智能。在这里，数据与人工智能之间存在显著的正比例关系：数据的规模越大、质量越高，人工智能的功效就越强。由于中国人口数非常庞大，电商、网上金融以及手机的多样化应用很发达，导致数据的产出量和大数据产业的规模居世界第一，这就为人工智能的发展提供了更充分的条件。5G移动通信系统作为枢纽和操控装置进一步加强物联网、大数据以及人工智能之间的互动关系，形成一种低功耗的新型社会沟通和运行系统。另外，日本以及东亚其他国家的文化大都具有泛神论特征，对机器人也抱有乐观的、友好的态度，手冢治虫（Osamu Tetsuka）的动漫作品《铁臂阿童木》与詹姆斯•卡梅隆执导的科幻系列电影《终结者》呈现的恐怖、悲惨的氛围形成了鲜明对照。因此，亚洲（至少东亚）各国具有推广和普及大数据和人工智能的优势。

从法学的角度来观察，大数据和人工智能构成一个规则嵌入的系统。所以莱西格（Lawrence Lessig）教授在互联网法经典著作《代码》中多次指出“代码即法律”。在这个命题的延长线上，也有人认为算法就是法律，可以支配社会行动。中国的阿里巴巴集团推出芝麻信用评价体系，显示了人工智能通过打分决定人们贷款、租车以及购房资格，甚至决定聘任和晋升的实例。失信惩戒合作机制则把芝麻信用与法院以及执法机关串联起来了，影响到法律判断和施行。在新加坡以及韩国，在线审判机制已经发展到比较高的程度。2019年4月2日，《广州5G智慧法院建设战略合作协议》签署，标志着中国首个5G智慧法院正式启动建设。从美国芝加哥起步的预测性警察活动在中国得到全面运用，并因网格化、立体化的管理方式而大幅度提高了效率。然而2019年6月发生的图像软件公司ZAO的“换脸”协议引起的争端以及10月在发生的人脸识别第一案，则从人权保障的角度揭示了数据攫取和滥用的风险，凸显了现代法治体制与人工智能技术之间的紧张关系。

上述事实和社会趋势就是在《亚洲法与社会杂志》策划亚洲的大数据、人工智能与法律研究专辑的背景，也显示了这个主题的学术价值和实践意义。由于Onati国际法社会学研究所成立30周年纪念大会和法社会学国际协会（RCSL）的年会合并在2019年6月召开，我希望能够组织一个关于“Big Data, AI and Judicial Service Across Generation”的专题研讨会征集稿件，这个设想得到左卫民教授、程金华教授、杨力教授、杨帆副教授等的积极响应。为了扩大参加的范围和进行国际比较，我在2018年11月19日发邮件给瑞典隆德大学法社会学系的荣退教授哈坎•海登（Håkan HYDÉN，Professor Emeritus in Sociology of Law, Lund University），邀请他作为联袂主席，共同征集论文，得到他的鼎力支持。近年来海登教授对作为社会规范的人工智能算法具有浓厚的兴趣，有强烈意愿推动欧洲与亚洲在这方面的合作研究。一个月之后，他告诉我有几个青年研究者决定和他一起参加研讨会并做报告，并发来了Stefan Larsson副教授、Pedro Fortes副教授、Ulrika Wennersten讲师、Ekaterina de Vries博士后研究员等的发言内容概要。由于签证等原因，中方发言预定者大都未能出席Onati大会，但有些后来提交了论文。欧方的参加者全部到场，确保了两场相关专题分组会的成功，为此我要特别向海登教授及其团队表示由衷的敬意和谢意。

在2019年6月召开的Onati大会上，我与日本东京大学法学院的太田胜造（Shozo Ota）教授久别重逢，也探讨了在法与大数据、人工智能方面开展中日合作研究的可能性，并介绍了《亚洲法与社会杂志》相关主题专辑的设想。他热情了介绍了日本的研究者Katsumi NITTA教授和 Ken SATOH教授并承诺帮忙向他们约稿。后来他提议在12月的亚洲法与社会协会大阪研讨会上我们共同组织一个关于人工智能与司法的分组会“AI-assisted Court System: How AI Can Help Judges, Lawyers and Litigants”，我和程金华教授、杨力教授都到大阪出席这次分组会并分别做了口头发言。日本方面的发言人除了来自法学专业的Ota教授本人外，还有来自信息科学专业的Yoshinobu Kano教授，介绍了利用司法考试数据和法律条文进行机器学习探索法律推理的深层结构的研究成果。

在上述国际研讨会若干分组会发言稿的基础上，我们遴选出了这个专辑的八篇论文。Håkan HYDÉN教授的力作“AI, Norms, Big Data and the Law”开宗明义，从宏观视角考察了对大数据和人工智能进行法社会学研究的意义和范围，提出了与社会规范形成对照的技术规范——算法规范algo norms、涉及法与各种社会子系统的秩序的第二次规范性（second order of normativity）等崭新的基本概念以及导致社会治理方式发生转变的一系列问题。算法可以作为规范影响人们的日常生活，但人们却无法通过民主程序影响算法——在这个意义上，以人工智能为代表的数字化信息技术是一种颠覆性技术，正在引起国家与个人之间的关系发生深刻改革。海登教授认为，为了理解相应的社会变迁，有必要提倡关于算法的法社会学研究，从而拓展从社会科学视角探讨数字技术对制度和秩序的影响的理论前沿和实证分析的范围。现代法律秩序追求的目标是可预测性和确定性，但人工智能的网络化和深度学习使得不可说明性和不确定性成为算法规范的一大特征，这就注定了社会治理和制度设计必须进行范式转换，必须更加注重试错过程在法律秩序中的作用。设立“特区”是中国改革开放的一个重要发明，日本借鉴这一经验并应用于人工智能的发展。海登教授认为这种特区（Tokku）就是决策的“活实验室（living lab）”。从试错过程的角度来看，人工智能和算法的发展方向不应助长管制经济，而必须是市场友好的。

Stefan LARSSON副教授的论文“On the Governance of Artificial Intelligence through Ethics Guidelines”以2019年4月欧洲委员会高级专家组制订的可信赖人工智能指南以及2020年2月发布的欧洲委员会数字化战略和人工智能白皮书为素材，分析了欧洲人工智能治理的基本理念、主要内容以及对法律制度的影响，特别是硬法与软法的组合方式。这篇论文聚焦以人为本的人工智能治理方针在社会结构以及互动过程的具体表现，指出了技术创新对法律与社会变迁的主要挑战，强调对大数据与人工智能之间的关系以及社会治理范式的转换进行跨学科研究的必要性。这篇文章还以中国和日本的人工智能治理的道德、政策以及法律规范为实例，对欧洲与亚洲的基本框架和机制设计进行了比较。中国方面在2019年5月25日发布《人工智能北京共识》，从研发、使用、治理三个方面，提出了以下十五条准则：造福、服务于人、负责、控制风险、合乎伦理、多样与包容、开放共享、善用与慎用、知情与同意、教育与培训、优化就业、和谐与合作、适应与适度、细化与落实、长远规划。2019年8月30日召开的世界人工智能大会法治论坛还发布了《世界人工智能法治蓝皮书（2019）》和《人工智能安全与法制导则》。日本的人工智能开发指针方案提出了五大理念，即以人为本、国际共享、效益和风险平衡、技术中立、重视软法。通过欧洲与亚洲的比较可以发现，在人工智能研发以及治理的原则和政策方面，国际社会已经初步形成了一些基本共识。

        Pedro FORTES Pedro FORTES副教授的论文“Paths to Digital Justice: Judicial Robots, Algorithmic Decision-Making, and Due Process”分析了信息技术、大数据、基于算法的决定过程对司法的影响，包括在线纠纷解决系统、刑事再犯风险评估和预警技术、机器人法官等法律人工智能的发展。作者认为，尽管司法的数字化是必要的而且现实可行的，但不能激进地主张法律判断的自动化，而需要根据程序公正原则分析和监控算法。为此，他以美国基于矫正档案的制裁多元化管理系统COMPAS为素材和线索，揭示了大数据存在的系统性偏差以及由此造成的风险评估上的算法歧视等问题或者争议，指出关键在于运用程序公正原则来避免算法的黑箱化和定罪量刑的新集体主义式的标签化，确保人工智能的可控性和可解释性以及司法的量身定制特征。

以上三篇论文提供了一般性分析框架和国际比较的视角，下面再来看亚洲关于大数据、人工智能与法律的研究的进展。由于中国高度重视人工智能在司法和执法中的应用，在数据收集和分析方面也具有独特的优势，近年来这方面的研究也非常活跃。好几位学者的论文是从不同侧面分析和讨论中国的经验及其理论意义。日本在机器人的研究和制作方面领先世界，对法律推理的专家系统以及法律信息技术也有长期的深入研究。新加坡推动司法数字化的力度很大，韩国也有很好实践绩效，可惜我们暂时还没有找到适当的撰稿人，希望将来能够弥补缺憾。

日本学者Katsumi NITTA and Ken SATOH的论文比较全面地介绍了把人工智能应用于法律领域的日本经验。他们首先介绍了日本在1982年启动的第五代计算机国家项目中包含的法律专家系统研究以及吉野一教授（Professor Hajime Yoshino）在1985年发起的法律专家系统研究项目，重点分析了吉野教授的研究团队在法律推理的算法开发方面的贡献以及专利法的智能化咨询系统。从2007年开始，法律信息学国际工作坊JURISIN取代上述项目，成为日本关于人工智能与法律研究的主要平台，并从2014年起合作举办法律信息学的创新赛事COLIEE。这一系列组织化研究活动开发了若干用于支持立法、司法以及法律服务的辅助性人工智能系统。

中国学者左卫民（Weimin ZUO）教授及其合作者 Chanyuan WANG的论文考察了中国的司法大数据以及基于大数据的法学研究。作者站在法律实证研究的立场来把握大数据法律研究的意义，认为在决策透明化背景下形成的上网判决等司法大数据势必成为实证研究的新资源并将由此引起法学研究范式的革命性变化。但是，他们强调大量数据、官方加工后的结构化数据都不等同于大数据，必须注意对大数据进行挖掘和分析的科学性，加强对不太完整的大量数据的正确清洗，并且强调通过抽样调查获得的“小数据”与大数据之间的互补关系以及统计分析、机器学习等方法的重要意义。

我本人的论文“The Change of Judicial Power in China in the Era of Artificial Intelligence”侧重在人工智能热中的冷思考。诉讼爆炸和法制统一是中国司法当局积极采用互联网、大数据、云计算、人工智能等新型信息技术的重要原因。从上海到贵州，各地法院都在通过案件繁简分流、核定法官年均最大办案量、加强考核问责、调整法官与审判辅助人员比例等方式缓解案件积压事态，通过计算机信息检索系统和其他辅助手段来减少机械性劳动的负荷，提高材料、数据等处理的速度和质量，“智慧法院”的确有利于提高司法效率和“类案类判”的正义水平。但是，如果让人工智能超出辅助性手段的范畴而全面应用于审判案件，甚至在很大程度上取代法官的判断，那就很有可能把司法权引入歧途。让人工智能自动生成判决、根据大数据矫正法律决定的偏差等做法势必形成审判主体的双重结构、甚至导致决定者的复数化，事实上将出现程序员、软件工程师、数据处理商、信息技术公司与法官共同作出决定的局面。一旦审判主体和决定者难以特定，那么权力边界也就变得模糊不清，司法问责制就很容易流于形式，至少推卸责任的可能性被大幅度扩充了。更重要的是，大数据和人工智能将会变成法庭辩论的“断头台”，酿成“一切取决于既定的算法，面对面的对话式论证算不了什么”的氛围，使中国本来就很孱弱的法律推理、法律议论以及法律解释学更加无足轻重。这意味着从根本上改变现代司法过程的结构和功能。

金耀辉（YaohuiJin）和何浩（Hao He）根据中国一些地方法院在语音识别、文本处理以及图像分类的实践，提出了一个基于人工智能的审判语义辅助框架，让提取信息和进行机器学习的运作能实现规范文本、案件情节、制裁条件以及判决理由的逻辑关系的连贯和相洽。这篇论文针对人工智能的计算能力和特征刻画能力不断强化而模型的可解释性却反而下降的现实问题，特别是造成问责机制失灵的法律问题，试图突破算法黑箱化的瓶颈，为数据处理和运算结果提供必要的逻辑解释，以实现可解释的人工智能的目标。

杨力、衣俊霖以及彭辉（Li YANG, Junlin YI and Hui PENG）的论文“Big Data Measurement Model Research About Judges’ Actual Workload in China”的出发点是近年来中国诉讼案件激增和法官员额制改革的实践需求。为了提高司法效率和确定合理的法官员额，需要对审判的工作量和绩效进行测定、评估。由于案件有难易之分，各地的司法编制和经费情况差别很大，根据工作量来确定员额和考核标准的作业是非常复杂的。本文通过对地方法院实际做法的调查研究以及对最高法院测定标准的分析，提出了根据司法大数据对案件权重以及法官工作量、特别是年均工作量进行合理计算的模型，试图以此作为员额制改革的依据。

郑戈（George G. Zheng） 论文的关注点是：当其他国家都积极地把信息沟通技术（ICT）用于非正式的纠纷解决，侧重发展线上纠纷解决方式时，中国却把互联网和人工智能集中投向改进正式的纠纷解决即司法领域。作者认为，算法显然有助于加强法律适用的刚性和统一性，也在类案同判的原则指导下加强了过去案例的约束力。特别是在刑事审判中，通过信息沟通技术的应用，证据的收集、举证和论证过程都变得更加标准化了，提高了司法的精密程度和整合性。有必要指出，尽管存在司法方面的区块链协议（天平链 Libra Chain）等技术创新，但整体而言，法律技术创新的结果却是进一步加强了中国固有的司法等级化的结构属性。通过案件分配、业绩考核以及司法责任制，大数据和人工智能等数字化方式似乎使对审判活动的金字塔式集中控制变得更有效率了。

2020年1月以来的COVID-19病毒疫情世界大流行，猛烈冲击了全球化经济体制和国际秩序。防止传染病的一系列应急举措，使得隔离和割据突然成为现阶段社会日常生活的特征。在这种背景下，既有的科层组织显得进退失据，新兴的信息沟通技术（ICT）进一步发挥了汇集和分配信息、资源以及物资的功能。在中国，是移动支付、网购、外卖、自媒体、慕课、视频会议、在线办公等方式，把自我隔离和被隔离的人们重新联系在一起，形成某种柔性组织和虚拟社区，通过万物互联互通的方式建构基层治理的平台。对疫区旅行者和疑似患者的排查、对隔离人员的监控、对救治病例的分析、对疫情发展的预测，都需要借助大数据、人工智能、区块链协议、远距离体温计、无人驾驶飞机等科技手段，从而也就使政府的运行越来越智慧网络化。在一定意义上可以说，这次大疫情促进了大转型，面向电子政府和网络政府的国家治理方式创新正在全面提速。这样的制度变迁进一步证明了我们这个专辑的现实意义。我们希望以此为契机，进一步推动关于大数据、人工智能等新技术在社会治理中的应用，并深入探讨国家与法律范式创新的各种可能性。

**AI, Norms, Big Data, and the Law**

**人工智能，规范，大数据，与法律**

Håkan HYDÉN，瑞典伦德大学退休教授

**Abstract:**

This is an overview article regarding artificial intelligence (AI) and its potential normative implications. Technology has always had inherent normative consequences not least due to AI and the use of algorithms. There is a crucial difference between algorithms in a technical sense and from a social-science perspective. It is a question of different orders of normativity—the first related to the algorithm as a technical instruction and the second to the consequences springing from the first order. I call these last-mentioned norms algo norms. These are embedded in the technology and determined by the design of the AI. The outcome is an empirical question. AI and algo norms are moving targets, which call for a novel scientific approach that relates to advanced practice. Law actualizes primarily for preventive reasons in relation to negative aspects of the new technology. No major regulatory scheme for AI exists. In the article, I point out some areas that raise the need for legal regulation. Finally, I comment on three main challenges for the digital development in relation to AI: (1) the energy costs; (2) the singularity point; and (3) the governance problems.

**摘要：**

这是一篇关于人工智能及其潜在的规范性影响的概述文章。技术总是具有内在的规范性后果，尤其是由于人工智能和算法的使用。技术意义上的算法和社会科学角度的算法之间有着重要区别。这是一个不同的规范性秩序的问题——第一种与作为技术指令的算法有关，第二种与第一种秩序所产生的后果有关。我把第二种规范称为 “算法规范”。这些规范嵌入在技术中，由人工智能的设计决定。结果是一个经验性的问题。人工智能和算法规范是不断发展的目标，需要一种与先进实践相关的新颖科学方法。法律的实施主要是为了预防新技术的消极方面。目前还没有针对人工智能的重大监管计划。在文章中，我指出了一些有法律监管需求的领域。最后，我评论了与人工智能数字发展相关的三个主要挑战：（1）能源成本；（2）奇点；（3）治理问题。

**On the Governance of Artificial Intelligence through Ethics Guidelines**

**论基于伦理指南的人工智能治理**

Stefan LARSSON, 隆德大学讲师

**Abstract:**

This article uses a socio-legal perspective to analyze the use of ethics guidelines as a governance tool in the development and use of artificial intelligence (AI). This has become a central policy area in several large jurisdictions, including China and Japan, as well as the EU, focused on here. Particular emphasis in this article is placed on the Ethics Guidelines for Trustworthy AI published by the EU Commission’s High-Level Expert Group on Artificial Intelligence in April 2019, as well as the White Paper on AI, published by the EU Commission in February 2020. The guidelines are reflected against partially overlapping and already-existing legislation as well as the ephemeral concept construct surrounding AI as such. The article concludes by pointing to (1) the challenges of a temporal discrepancy between technological and legal change, (2) the need for moving from principle to process in the governance of AI, and (3) the multidisciplinary needs in the study of contemporary applications of data-dependent AI.

**摘要：**

本文使用法社会学的视角，分析了在人工智能开发与使用过程中，作为一种治理工具存在的伦理指南的使用。这已经成为包括中国、日本和欧盟在内的几个对此予以关注的大型司法管辖区的一个中心政策领域。本文特别强调了欧盟委员会人工智能高级专家组于2019年4月发布的《可信人工智能伦理指南》，以及欧盟委员会于2020年2月发布的《人工智能白皮书》。这些指南是以部分重叠并且已经存在的立法以及围绕人工智能本身的短暂概念构造为背景的。本文最后指出了（1）技术和法律变化之间时间差异的挑战，（2）在人工智能治理中从原则转向过程的需求，以及（3）在数据依赖型人工智能的当代应用研究中的多学科需求。

**Paths to Digital Justice: Judicial Robots, Algorithmic Decision-Making, and Due Process**

**通往数字司法的途径：司法机器人、算法决策和正当程序**

Pedro RUBIM BORGES FORTES, 里约热内卢联邦大学访问教授

**Abstract:**

The paths to digital justice focus on the challenges of contemporary digital societies in reaching automated decision-making processes through software, algorithms, and information technology without loss of its human quality and the guarantees of due process. In this context, this article reflects on the possibilities of establishing judicial robots in substitution for human judges, by examining whether artificial intelligence and algorithms may support judicial decision-making independently and without human supervision. The point of departure for this analysis comes from the experience of criminal justice systems with software for judgment of the possibility of recidivism of criminal defendants. Algorithmic decision-making may improve the public good in support of judicial decision-making, but the analysis of current technology and our standards for due process of law recommends caution on the conclusion that robots may replace human judges and satisfy our expectations for explainability and fairness in adjudication.

**摘要：**

要实现数字司法，需关注当代数字社会在利用软件、算法和信息技术实现自动化决策过程中面临丧失人性化和正当程序保障的风险。在此背景下，本文会通过论证人工智能和算法技术是否能够在没有人监督的情况下独立地作出司法决策，进而反思司法机器人替代人类法官的可能性。本文分析的出发点是源于过往刑事司法系统运用了软件来判断刑事被告人再犯可能性。由算法决策所作出的司法决策可以改善公共利益，但基于对法律正当程序的标准和当前技术的分析表明，还需谨慎思考机器人可以取代人类法官并满足我们对其作出裁决的可解释性与公正性的期待。

**AI Applications to the Law Domain in Japan**

人工智能在日本法律领域的应用

Katsumi NITTA, 国立信息学研究所项目教授；Ken SATOH, 国立信息学研究所教授

**Abstract:**

Artificial intelligence (AI) and law is an AI research area that has a history spanning more than 50 years. In the early stages, several legal-expert systems were developed. Legal-expert systemsare tools designed to realize fair judgments in court. In addition to this research, as informationand communication technologies and AI technologies have progressed, AI and law has broadenedits view from legal-expert systems to legal analytics and, recently, a lot of machine-learningand text-processing techniques have been employed to analyze legal information.The research trends are the same in Japan as well and not only people involved with legal-expertsystems, but also those involved with natural language processing as well as lawyers havebecome interested in AI and law. This report introduces the history of and the research activitieson applying AI to the legal domain in Japan.

**摘要：**

“人工智能(AI)与法律”是一个发展已逾50年的人工智能研究领域。在早期阶段，该领域发展了若干“法律专家系统”，这一系统是为实现法庭公正判决而设计的工具。除此之外，随着信息通信技术和人工智能技术的发展，“人工智能与法律”已经从“法律专家系统”拓展到法律分析领域。近年来，大量的机器学习和文本处理技术被用于分析法律信息，日本的研究趋势也是如此。不仅是从事法律专家系统的人，从事自然语言处理的人以及律师都对人工智能和法律感兴趣。本报告介绍了日本将人工智能应用于法律领域的历史和研究活动。

**Judicial Big Data and Big-Data-Based Legal Research in China**

中国司法大数据和基于大数据的法学研究

左卫民，四川大学法学院教授；王婵媛，四川大学法学院博士生

**Abstract:**

The newly established judicial-transparency platforms, like China Judgements Online, have provided access to a new resource—judicial big data—making it possible to conduct empirical, big-data-based legal research. However, as is often the case with new products, these platforms—China Judgements Online, in particular—pose a few problems for big-data-based legal research: insufficient academic depth; immature technical methods; and lack of innovation due to flawed data, strict technical thresholds, and lack of theoretical ambition and ability. In the future, big-data-based legal research should make use of current data resources, continue to promote statistical science and computer science in research, and apply small-data research methods, and in the meanwhile pay attention to the combination of data and theory.

摘要：

以裁判文书网为主的司法公开平台的建设为法律实证研究提供了司法大数据这一新型资源，使得大数据法律研究空间更为广阔。然而，正如很多新生事物一般，目前基于裁判文书网的大数据法律研究存在着研究缺乏学术深度、技术手段不成熟及创新性的问题，原因在于已公开裁判文书不能反映出真实的司法实践全貌、技术门槛要求严格以及研究者未能跳出现有法律理论的先验框架。未来的法律大数据研究应当充分利用当前的数据资源，继续推进统计科学、计算机科学在研究中的深度运用，同时注重对小数据研究方法的应用以及数据和理论的融合。

**The Change of Judicial Power in China in the Era of Artificial Intelligence**

人工智能时代的司法权之变

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**Abstract:**

The singularity of artificial intelligence (AI), which transcends human intelligence to play the role of God, is imminent. In this context, the Chinese judicial system has gained some latecomer advantage, with the help of information technology, the Internet, big data, cloud computing, and AI to improve the efficiency and transparency of case handling. The trial process has undergone extensive and profound qualitative mutations. This represents a challenge to the institutional arrangements of the modern rule of law. At this stage, we should adopt a cautious and prudent attitude towards the design and application of legal-expert systems as well as machine learning. Especially from the aspect of computer sentencing, it is even more necessary to avoid a rush for quick results, and there is no need to completely exclude the judge’s discretion and free evaluation of the evidence through inner conviction. The finality of the judicial power is destined to choose a correct final solution through a debate on the survival of the fittest mechanism. In the face of such a modern rule-of-law system, big data, cloud computing, information technology, and AI are just auxiliary means to achieve legal justice. It is impossible to put the cart before the horses. This is a basic principle that we should always bear in mind.

摘要：

人工智能反过来超越人类智能扮演上帝角色的奇点正在迫近，在这种背景下，中国司法系统获得了某种后发优势，借助信息技术、互联网、大数据、云计算以及人工智能提高办案效率和透明度，使审理流程发生了广泛而深刻的质变和突变。这对现代法治的制度安排提出了严峻的挑战。在现阶段对法律专家系统软件的设计和运用应该持一种慎之又慎的态度，尤其是在电脑量刑方面更不可急于求成，也没有必要完全排除法官的心证和裁量。司法权的终局性注定了要通过辩论的优胜劣汰机制选出一个正确的最终解决方案。在这样的现代法治体制面前，大数据、云计算、信息技术、人工智能都只是实现合法正义的辅助手段，切不可本末倒置，这是我们始终应该铭记的一条基本原则。

**An Artificial-Intelligence-Based Semantic Assist Framework for Judicial Trials**

基于人工智能的审判语义辅助框架

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**Abstract:**

Due to their success in routine tasks such as voice recognition, image classification, and text processing, extensive attention has been aroused on how to use artificial intelligence (AI)-based automation tools in the judicial-trial process to improve efficiency. Meanwhile, judicial trial is a complex task that requires accurate insight and subtle analysis of the cases, law, and common knowledge. Applying the results provided by AI-based automation tools directly to the judicialtrial process is controversial due to their irregular logic and low accuracy. Based on this observation, this article investigates the logic underlined in judicial trials and the technical characteristics of AI, and proposes an AI-based semantic assist approach for judicial trials that is logical and transparent to the judges.

摘要：

人工智能在语音识别，图像分类和文本处理之类的任务中取得了巨大成功，因此引起了司法领域的广泛关注，如何在司法审判过程中使用基于人工智能（AI）的自动化工具来提高效率。 然而司法审判是一项复杂的任务，需要对案件，法律和常识转换为计算机能理解的模型，继而有更深入的洞察和推理。 由于基于统计学习的自动化工具所提供的结果逻辑不规则且准确性较低，因此将其直接应用于司法审判过程存在争议。 基于这种观察，本文研究了司法审判中强调的逻辑和AI的技术特点，并提出了一种基于人工智能的司法审判语义辅助方法，这种方法对法官是透明的并符合业务逻辑。

**Big-Data Measurement-Model Research about Judges’ Actual Workload in China**

中国法官实际工作量的大数据测算模型研究

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**Abstract:**

As the growing number of cases is draining the limited court resources in China, how to scientifically measure the reasonable saturated workload of judges has become an urgent issue. This issue is the prerequisite of other important topics such as determination of judges’ quotas, measurement of the actual workload of a trial team, performance evaluation of judges, and resource allocation within courts. Data-driven measurement of the actual workload of China’s judges depends on various factors such as local economic development, public transportation, case-load in the past, and staffing of assistant positions. Therefore, traditional approaches that depend only on a single element, such as cause of action, do not work well. We proposed a modelling framework based on big-data and machine-learning technology to more accurately measure the actual workload of judges. This framework extracts the core elements of judicial cases, assigns target workload to the cases based on feedback from judges and analyzing case samples to create a standard training dataset, and trains machine-learning models using the data. A preliminary case-weight calculation model is built using the framework. Besides, the model is continuously evaluated and improved by comparing its output with the actual demand in a court through methods such as sampling, questionnaires, and expert evaluation.

摘要：

在中国法院面临案多人少的背景下，如何科学合理测算法官工作量，成为一个亟待解决的重要问题。法官员额制改革和工作量测算，不仅涉及法院内部人员的配置比例，还涉及到相关配套制度的建设，这些都会对中国法院的运行产生深远影响。对法官实际工作量的数字测算受到多重因素的影响，比如地方经济发展、公共交通、已有的案件量以及助理人员配备。因此，传统仅仅依赖单一要素，比如诉讼事由对法官工作量的测定效果不佳。我们提出基于大数据和机器学习技术来更准确地测算法官的实际工作量。这一框架通过抽取案件事实的核心要素，根据法官的反馈分配目标案件的工作量，通过分析案件样本以创建标准的培训数据集，并使用这些数据来训练机器学习模型。我们使用该框架构建了一个初步的案例权重计算模型。此外，通过抽样、问卷调查和专家评估等方法，将模型的输出与法院的实际需求进行比较，使得模型能够不断地被评估和改进。

**China’s Grand Design of People’s Smart Courts**

人民智慧法院的中国式顶层设计

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**Abstract:**

While online dispute resolution (ODR) and online courts have become a global phenomenon, China is unique in its way of constructing a “smart-courts” system. This paper argues that the Chinese smart courts are embedded in China’s larger strategy of capturing new opportunities offered by the information and communications technology (ICT) revolution. Adoption of cutting- edge ICT by courts is not an initiative taken by the courts themselves; rather, it is a call from the party-state with strong policy push. The paper also makes two observations on the nature of smart courts in China. One is that Chinese courts are using ICT, especially artificial intelligence, both to enhance hierarchical control and to improve the formal quality of law. Another is that the“Internet courts” are established to solve disputes arising from online transactions, rather than serve as piloting courts with general implications for the shape of future courts in China.Therefore, while boldly experimenting new technologies (such as blockchains) in the judicial process, Internet courts in China are also charged with the responsibility of developing legal doctrines in cases within their jurisdictions. The case of China thus shows the profound interaction between law and technology. Whether technology is disruptive depends on human design and efforts.

摘要：

尽管在线纠纷解决（ODR）和在线法院已成为一种全球现象，但中国在构建“智慧法院”系统方面却是独一无二的。本文认为，中国的智慧法院已嵌入中国在抓住信息和通信技术革命所带来的新机遇的大战略中。法院采用最先进的信息通信技术并不是法院本身采取的主动行动，而是来自政党强力的政策推动。本文还对中国智慧法院的性质提出了两方面的观察。一是，中国法院正在使用的信息通信技术，特别是人工智能，有助于增强法院的等级控制和类案同判的可能。二是，“互联网法院”的建立是为了解决在线交易引起的纠纷，而不是充当对塑造中国未来法院的形态具有普遍启示意义的试点法院。因此，在司法过程中大胆尝试新技术（例如区块链）的同时，中国的互联网法院还负责在其管辖范围内的案件中发展法律教义。中国的案例显示了法律与技术之间的深刻互动。技术是否具有破坏性取决于人类的设计和努力。

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Daniel PASCOE

**BOOK DISCUSSION**

**圆桌讨论**

**Commentary by David Engel, State University of New York**

David Engel的评论

David ENGEL，纽约州立大学

**Commentary by Amy Barrow, Macquarie University**

Amy Barrow的评论

Amy BARROW, 麦格理大学

**Commentary by Hsiao-Tan Wang, National Chengchi University**

Hsiao-Tan Wang的评论

Hsiao-Tan WANG，台湾政治大学

**Commentary by Nick Cheesman, Australian National University**

Nick Cheesman的评论

Nick CHEESMAN，澳大利亚国立大学

**Response to Commentaries**

对评论的回应

Lynette J. CHUA，新加坡国立大学

**2019 ANNUAL CONFERENCE OF THE ASIAN LAW AND SOCIETY ASSOCIATION**

**2019年亚洲法与社会协会年度会议**

**President’s Farewell Message: The Anthropocene, Earth Jurisprudence, and the Rights of Nature**

会长告别演说：人类世、地球法理学与自然权利

Hiroshi FUKURAI，美国加州大学圣克鲁兹分校