

# Ethical-Juridical Inquiry Regarding the Effect of Artificial Intelligence Applications on Legal Profession and Legal Practices

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## Özet

Teknolojik ilerlemelerle hızla gelişmeye devam eden yapay zeka temelli 'dijital dünya düzeni'; iş sektöründen sağlık sektörüne, eğitim sektöründen hukuk-yargı sektörüne varıncaya kadar büyük bir değişime ve dönüşüme işaret etmektedir. Nitekim yüksek ve orta gelirli ülkelerde yapay zeka, yüz tanıma programları başta olmak üzere 'elektronik oylama, teknolojiye dayalı gözetim ve kontrol, algoritmaya dayalı 'öngörücü polislik', adalet ve göçmenlik sistemlerinin dijitalleştirilmesi, vergi beyannamelerinin ve ödemelerin çevrimiçi gönderimi gibi' birçok farklı alanda kullanılmaktadır. Dijital çağ teknolojisinin bir yaratımı olarak yapay zeka, yalnızca yaşamımızın her alanı açısından değil, geleceğimize dair köklü dönüşümlere yol açacak bir potansiyeli de beraberinde getirmektedir. Bu potansiyel kendisini hukuk uygulaması boyutunda yeni bir '*hukuk teknolojisi*' üreterek yargı sektöründe göstermektedir. Bu kapsamda üstün bir teknoloji olarak yapay zeka, adli hizmetleri iyileştirmek ve adalete erişimi etkinleştirmek adına yargı sektöründe kullanılmaktadır. Öyle ki, 'yapay zeka destekli jüri üyelerinden internet mahkemelerine; AI robot avukatlarından yargıçlara; ve sözleşme veya ekip yönetimi için yapay zeka destekli özelliklere' varıncaya kadar bu 'dijital devrimin' hukuk sektörünü dönüştürmeyi sürdüreceği öngörülmektedir.

Bu dijital teknolojinin gelişim dinamiğinin bütün dünyada hukuk düzenlerini radikal bir dönüşüme uğratma potansiyeli ufukta görünmektedir. Tüm yerleşik hukuk sistemini ve pratiğini dönüşüme uğratabilecek olan bu 'yaratıcı-yıkım dalgası' geleneksel hukuksal değerlere ilişkin bir tehdit olarak da değerlendirilebilmektedir. Bu yapay zeka devrimi neticesinde hukuk sektörünün köklü değişikliklere uğrayacağı öngörülmektedir. Legal AI, 'adalete erişimi artırma, iş yükünü ve gereksiz evrak işlerini azaltma, kısa zamanda davanın sonuçlanmasına olanak sağlama' gibi gerekçelerle hukuk sektöründe yapay zekanın kullanılmasını çekici hale getirmektedir. Ancak yargı sektöründe yapay zeka uygulamalarının ortaya çıkarması muhtemel birtakım riskleri ve fırsatları bulunmaktadır. Yargılama faaliyetlerinde yapay zeka

kullanımıyla ilgili ‘keyfilige yol açma ve ayrımcılık, yasal doğruluk, şeffaflık ve adalet bölünmesi’ gibi endişeler artmaktadır.

**Anahtar kelimeler:** Yapay zeka, dijital devrim, yapay zeka devrimi, siber adalet, robot yargıç, hukuk meslekleri, hukuk teknolojisi, hukuk uygulaması, etik, etik-jüridik.

## Ethical-Juridical Inquiry Regarding the Effect of Artificial Intelligence Applications on Legal Profession and Legal Practices

Muharrem KILIÇ<sup>1\*</sup>

### Introduction: Artificial Intelligence in the Digital World

Artificial Intelligence (AI),<sup>2</sup> thought to have emerged in the mid-twentieth century with a historical timing equivalent to the historical background of modern computer technology, shows the access horizon of the technical move of the industrial revolution towards mechanization. This horizon predicts the establishment of operating systems with human-specific existential qualities such as “autonomous thinking, speaking, learning, communicating, conceptualizing and even sensing”.<sup>3</sup> This prediction is based on the substitution of a robotic existence that will replace humans with all their cognitive and affective functions. In particular, the development of artificial intelligence technology with ‘machine learning’ and ‘deep learning’ techniques can be considered important steps towards this era. All these developments are compatible with the motto of ‘*technological progress*’ idealized in terms of modern human history.<sup>4</sup>

The artificial intelligence-based digital world order that continues to develop rapidly with all these technological advances presages a great change and transformation from the business sector to health sector, education sector to legal-judicial sector. Thus, in high and middle-income countries, artificial intelligence is used in many other areas from “face recognition programs, electronic voting, technology-based surveillance

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<sup>2</sup> “Artificial Intelligence (AI) can be described as using Machine Learning (ML), Natural Language Processing (NLP), and Computer Vision applications to use computers based on big data models for pattern recognizing, explaining, and prognosis.” See. Muharrem Kılıç, ‘Ethico-Juridical Dimension of Artificial Intelligence Application in the Fight Against Covid-19 Pandemics’ in Sezer B Kahyaoğlu (ed) *The Impact of Artificial Intelligence on Governance, Economics and Finance* (Springer 2021), 301.

<sup>3</sup> Kılıç (n 2 ) 300.

<sup>4</sup> ibid.

and control, predictive policing, digitalization of justice and immigration systems, to online submission of tax returns and payments.”<sup>5</sup>

As a creation of digital age technology, artificial intelligence will potentially lead to radical transformations not only in our all aspects of life but also in our future. This very potential manifests itself in the judicial sector by producing a new ‘*legal technology*’ in the dimension of legal practice. The potential of the development dynamics of this digital technology to radically transform legal systems all over the world seems to be on the horizon. This ‘*creative-destruction wave*’, which can transform the entire established legal system and practice, can also be considered as a threat to traditional legal values. The basic principles of law such as “justice, autonomy, accountability, transparency, legality, non-discrimination . . . and rule of law” are becoming increasingly fragile in the face of the risks posed by this digitalization.<sup>6</sup>

Although LegalAI (*legal artificial intelligence*) focuses mainly on applying artificial intelligence technology to assist legal affairs, some artificial intelligence-based applications (AI Judge, AI Lawyer, etc.) used in the legal field point to a transformation in terms of legal professions. Artificial intelligence in the judicial sector has a wide range of uses from AI robot lawyers to judges; similar case matching to providing self-legal services. The application areas of artificial intelligence developed for the purposes of use vary. For instance, there are fundamental differences between the application of legal technology (*legal tech*) by a private law firm and its use by public authorities. While private sector has a motive for economic growth, the state sector serves the public interest. Another differentiation is the application of legal tech as an “investigative prediction tool” or a “decision substitute” “used in the decision-making process” to generate new information.<sup>7</sup>

This paper aims to question the potential impact of artificial intelligence-based applications, which are being used more and more in the judicial sector, in terms of legal professions on an ethical-juridic basis. Also, it evaluates the use of artificial intelligence in the legal-judicial sector from an ethical point of view on the basic principles such as ‘justice, fairness, privacy, confidentiality, security, and non-discrimination’. In this context, rights-based concerns regarding the use of artificial intelligence are addressed through dynamics such as

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<sup>5</sup> Philip Alston, ‘Report of the Special Rapporteur on Extreme Poverty and Human Rights’ A/74/48037 (October 2019) 4 .

<sup>6</sup> Gabriele Buchholtz, ‘Artificial Intelligence and Legal Tech: Challenges to the Rule of Law’ in Thomas Wischmeyer and Timo Rademacher (eds) *Regulating Artificial Intelligence*, (Springer 2020) 175.

<sup>7</sup> Buchholtz (n 6 ) 178.

‘arbitrariness, bias, discrimination, lack of transparency and legal correctness’.

### 1. The Use of Artificial Intelligence in the Judicial Sector

The dizzying effect of artificial intelligence technology, which exists in all areas of our daily life, affects the whole world and forces many sectors, including the legal service sector to transform. Artificial intelligence as superior technology is used in the judicial sector to improve judicial services and enable access to justice. It is envisaged that this ‘digital revolution’ will continue to transform the legal sector until “AI-powered jurors to internet courts; AI robot lawyers to judges; and AI-powered features for contract or team management .”<sup>8</sup> In line with this technological development, artificial intelligence is currently used in a number of applications in the United States to determine the duration of the sentence and the possibility of the perpetrator committing a crime again. AI is also used in Germany and United Kingdom to predict and prevent crimes.<sup>9</sup> Similarly, in China, there is a ‘206 system’ which is an integrated AI assistant system for criminal cases. This AI-based system ‘[] help[s] the judge find facts, authenticate evidence, protect the right to appeal, and judge impartially on the trial ,’ to avoid wrongful convictions.<sup>10</sup>

In some European countries, security forces have implemented the new ‘Big Data’ technology. This system which is called ‘predictive policing’ was developed to help predict future crimes before the crime occurs.<sup>11</sup> In the United Kingdom, ‘predictive policing’ has recently been approved by the Supreme Court. Many federal states of Germany are testing software called the *Precobs-Pre-Crime Observation System* and the *Crime Analysis and Situation Prediction System (SKALA-System Zur Kriminalitätsanalyse und Lageantizipation)* which will use certain attributes of the theft crime to predict the possibility of a person committing a crime again.<sup>12</sup> However, the usage area of artificial intelligence-based legal technology is not limited to ‘predictive policing’, the range of its use is expanding daily. Legal technology is no longer just about digitizing the work environment and providing tools that increase

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<sup>8</sup> Marcos E Kauffman and Marcelo N Soares, ‘AI in Legal Services: New Trends in AI-Enabled Legal Services’ (2020) 14 *Service-Oriented Computing and Applications* 223, 223.

<sup>9</sup> See also, Kılıç (n 2 ).

<sup>10</sup> Jiang Wei (2019) <<http://www.chinadaily.com.cn/a/201901/24/WS5c4959f9a3106c65c34e64ea.html>> Date of Access 15 January 2021.

<sup>11</sup> Buchholtz (n 6 ) 180.

<sup>12</sup> *ibid* 180.

individual productivity, but about ensuring that machines take on essential legal activities in the private and public spheres.<sup>13</sup>

LegalAI mainly focuses on applying artificial intelligence technology to support legal services. Most of the resources in this area are presented in text forms such as ‘judicial documents, contracts, and legal opinions’. Therefore, most LegalAI domains are based on Natural Language Processing technology.<sup>14</sup> LegalAI plays an important role in the legal field as it can reduce heavy and unnecessary work for lawyers. For example, artificial intelligence provides convenience in terms of preparing a petition, contracts, and finding related cases. Many professional fields in the legal sector require the expertise of lawyers and a full understanding of various legal documents. Obtaining legal documents from courthouses and understanding and interpreting these documents is a very time-consuming process of work and action for lawyers. Because of this, a qualified LegalAI system has the potential to reduce the time-consuming work and thus benefit the legal system.<sup>15</sup>

Several typical applications in LegalAI, including, ‘Legal Judgment Prediction, Similar Case Matching, Legal Question-Answering and using Artificial Intelligence in Courts’ will be discussed in detail.

#### - **Legal Judgment Prediction**

Legal judgment prediction is an artificial intelligence-based forecasting system that makes it possible to predict the outcome of a lawsuit based on the facts of a case.<sup>16</sup> This system is one of the most critical functions in the legal system of Continental Europe. Because, in the Continental legal system, the judgments are given according to the facts and the provisions of the law. A person is only sentenced after violating the prohibitive actions prescribed by the law. The function of the judicial decision prediction mechanism is mainly related to how to decide within the framework of legal provisions in the Continental European legal system. Within this framework, we can mention C-LJP, a large-scale Chinese criminal justice prediction dataset,, as an example of the judicial decision prediction mechanism. The data set includes more than 2.68 million legal documents published by the Chinese government...

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<sup>13</sup> *ibid* 180.

<sup>14</sup> Logol, ‘Artificial Intelligence in the Legal Profession’ <<https://www.logol.com/media/Logol-WP1-AI-in-the-legal-profession-03.06.2020.pdf>> Date of Access 12 January 2021.

<sup>15</sup> Logol (n 14 ).

<sup>16</sup> Haoxi Zhong, Chaojun Xiao and Cunchao Tu, ‘How Does NLP Benefit Legal System: A Summary of Legal Artificial Intelligence’ (2020) Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics 4-6.

Thus, this data capacity puts C-LJP in a competent position in terms of judicial decision estimation.<sup>17</sup>

In 2014, Chicago-Kent Law School professor, Daniel Martin Katz, and Michigan State University law faculty members developed an algorithm to predict the outcome of cases at the USUSUS.. Supreme Court. It is noted that this algorithm achieved 70 percent accuracy for 7,700 decisions from 1953 to 2013.<sup>18</sup> In Turkey, the artificial intelligence-based Robot software interface for lawyers (ARYA) developed by Kodex IT accurately estimates the Court of Cassation's decisions about 90 percent.<sup>19</sup>

#### - **Similar Case Matching**

Another method of using artificial intelligence in the judicial sector is the matching of similar cases. In countries with Common Law systems such as the United States, Canada, and India, judicial decisions are made based on past precedent law. How to determine the most similar case is a primary focus for lawyers and judges working within a Common Law system.<sup>20</sup> Therefore, the use of artificial intelligence in this field has the potential to provide great benefits for countries with the Common Law system.

#### - **Legal Question-Answering**

Another typical application of LegalAI is the Legal Questions Answering procedure.<sup>21</sup> This application functions as a kind of legal 'self-help system'. As an example of this usage, we can cite the 'DoNotPay' app, which is created as a "basic legal expert system," usually in the form of chatbots, that provides users "with answers to basic legal questions."<sup>22</sup> 'DoNotPay', which was first developed as a legal aid application for parking fines, has expanded its service area to all fifty states in the USA, as of July 2017. It is predicted that this practice is only the beginning of

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<sup>17</sup> Zhong, Xiao and Tu (n 15).

<sup>18</sup> Julie Sobowale, 'How Artificial Intelligence is Transforming The Legal Profession' (2016) ABA Journal <[https://www.abajournal.com/magazine/article/how\\_artificial\\_intelligence\\_is\\_transforming\\_the\\_legal\\_profession?utm\\_source=i](https://www.abajournal.com/magazine/article/how_artificial_intelligence_is_transforming_the_legal_profession?utm_source=i)> Date of Access 12 January 2021.

<sup>19</sup> <<http://odtuteknokent.com.tr/tr/haber/kodex-bilisimden-yargitay-davalarina-yapay-zekali-destek>> Date of Access 15 January 2021.

<sup>20</sup> Zhong, Xiao, and Tu (n 15).

<sup>21</sup> *ibid* 8.

<sup>22</sup> Harry Surden, 'Artificial Intelligence and Law: An Overview' (2019) 35(4) Georgia State University Law Review 1306, 1335.

the “transformation of ‘legal ‘self-help’ services” and the legal services industry as a whole.<sup>23</sup>

ROSS Intelligence has marketed itself as “the world’s first artificially intelligent lawyer’.attorney.” In May 2016, Bakerhostets, a national law firm in the United States, hired this artificial intelligence lawyer.<sup>24</sup> ROSS answers questions asked by member lawyers, ‘reading’“” more than one million pages per second, accessed by its common legal publisher, and providing ‘answers’ along with certain texts taken from “laws, case and secondary sources.” Unlike existing legal ‘data providers’, Ross is noted to have ‘insight’ that can generate judicial decisions by updating itself as laws and doctrinal interpretations change.<sup>25</sup> Ttheretherere there are so many AI-based applications similar to Ross Intelligence such as Westlaw, Casetext, etc.<sup>26</sup>

#### - **Using Artificial Intelligence in Courts**

Currently, the use of digital technologies in the legal sector is becoming increasingly common worldwide. Even in Europe, some jurisdictions have already implemented ‘cyber justice’ tools that facilitate access to justice, improve communication between courts and lawyers, and provide direct assistance to judges and court administration. AI is considered one of the “biggest breakthroughs in full-scale digitalization.”<sup>27</sup>

Although digital technology is increasingly taking place in courtrooms around the world, Chinese courts use ‘deep technology’ on a much faster and larger scale than their counterparts in many other countries. In recent years, courts in China have made great advances in the use of AI tools in online alternative dispute resolution platforms, specialized Internet Courts, and personal injury litigation, dispute

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<sup>23</sup> Drew Simshaw, ‘Ethical Issues in Robo-Lawyering: The Need for Guidance on Developing and Using Artificial Intelligence in the Practice of Law’ (2018) 70 (173) *Hastings Law Journal* 173, 176.

<sup>24</sup> ROSS Intelligence (“ROSS”) builds AI-driven products to augment lawyers’ cognitive abilities. We are a team of engineers, scientists, designers and lawyers who are dedicated to leveraging cutting-edge technologies to solve the law’s hardest problems. See also; <<https://rossintelligence.com/about-us>>, Date of Access 12 February 2021; ROSS Intelligence announced on 31.12.2021 that the ROSS platform will no longer be available, as Canadian media company Thomson Reuters and Westlaw’s companies filed a fraudulent lawsuit against them and could not find enough funds to cover the costs of the case. See, <<https://blog.rossintelligence.com/post/announcement>> Date of Access 12 February 2021.

<sup>25</sup> Simshaw (n 22) 176.

<sup>26</sup> <<https://www.g2.com/products/ross-intelligence-ross/competitors/alternatives>> Date of Access 3 June 2021.

<sup>27</sup> Vivek Kumar, ‘AI Moves to Court: The Growing Footprints of AI In The Legal Industry’ (2020) <<https://www.analyticsinsight.net/ai-moves-court-growing-footprint-ai-legal-industry/>> Date of Access 13 February 2021.

resolution, and litigation processes. The Chinese administration has created “A Policy Framework of ‘Smart Courts’” to increase the “efficiency, transparency and effectiveness” of the judiciary’.<sup>28</sup>

As part of the ‘smart courts policy’ mentioned above, China has been using the “cyber courts’ courts’ courts” system since 2017. Some elite cities in China have employed an AI judge in the “cyber court’ court” The “Internet Court’ Court’ Court” with an artificial intelligence judge uses its jurisdiction over issues concerning the digital world such as e-commerce disputes and copyrights.<sup>29</sup> China’s Supreme Court published a “White Paper on Chinese Courts and Internet Judiciary” in 2019. According to this paper “as[] of October 31, 2019, Hangzhou Internet Court, Beijing Internet Court, and Guangzhou Internet Court had accepted 118,764 Internet-related cases and concluded 88,401. The rate of online filing (the lawsuits filed via the Internet) was 96.8%, and 80,819 cases concluded were proceeded online throughout the whole process.”<sup>30</sup>

Similarly, the Estonian government is planning to implement the ‘AI Judge’ model to resolve some disputes in the judicial system. “This project is aided by the fact that Estonia has exponentially integrated with technology, with nation-wide ID cards and the vast majority of Estonians filing government documents online.”<sup>31</sup> The Cyber Court of China has two more radical basic features. The first is that the artificial intelligence-based internet court system used in China is not ‘state-sponsored’. Unlike Estonia’s state-sponsored cyber court practice, the Chinese internet court is a production of WeChat, which is the country’s giant “social media platform and a private company.” Therefore, the virtual court system used in China is more similar to alternative dispute resolution methods such as arbitration. A second distinction is that the system is a ‘preferential system’ because it is developed and used by non-governmental actors. Thus, people who want to use this system “must mutually agree to take the case up to the AI judge.”<sup>32</sup>

The judicial sector continues to be affected by the AI transformation. Artificial intelligence has a wide range of uses such as ‘legal judgment prediction, similar case matching, and legal questions answering’. Although artificial intelligence applications used in the

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<sup>28</sup> Mimi Zou, ‘Smart Courts in China and the Future of Personal Injury Litigation’ (2019) Oxford University Press 1-3.

<sup>29</sup> Joshua Park1, ‘Your Honor, AI’ (2020) Harvard International Review <<https://hir.harvard.edu/your-honor-ai/>> Date of Access 15 January 2021.

<sup>30</sup> China Justice Observer (2019) <<https://www.chinajusticeobserver.com/a/supreme-peoples-court-issues-a-white-paper-on-china-court-and-internet-judiciary/>>, Date of Access 2 June 2021.

<sup>31</sup> Park1 (n 28).

<sup>32</sup> *ibid.*



judicial sector can produce work ‘faster and at a lower cost’, the impact analysis of these applications on the legal system and legal professions is required.

## 2. LegalAI: Potential Benefits and Risks

Artificial intelligence (AI) technology, whose technical and hardware infrastructure is developing rapidly with each passing day, causes a great transformation in many fields and sectors. One of the areas transformed by applications developed based on artificial intelligence technology is the judicial sector. While the transformation of artificial intelligence in the judicial sector presents important opportunities for members of the judiciary, it also presents many challenges on an ethical basis.<sup>33</sup>

One of the most important promises of artificial intelligence technology is to increase access to justice and to reduce the ‘legal gap’ between individuals. Legal Services Corporation (LSC)<sup>34</sup> defines the ‘justice gap’ as “the difference between the unmet judicial service requirement and the resources available to meet that requirement”.<sup>35</sup> Artificial intelligence technologies can be a powerful tool in meeting this requirement. The most transformative technology in the legal sector to date has been the ‘internet’ service that enables clients with low socio-economic levels to receive legal aid. Many legal services and/or resources are now available online. For instance, the emergence of ‘online courts’ has improved access to court systems and ‘collaborative technology’ has proven particularly useful in alternative dispute resolution platforms.<sup>36</sup>

In the legal-judicial sector, it is often said that the use of artificial intelligence judges results in justice services that are “‘faster, more efficient, cheaper and less prone to human bias’bias’bias’”. Also, artificial intelligence judges are free of humanitarian weaknesses such as ‘threat, bribery, favoritism.’ On the other hand, there is no doubt that the judges do not have mechanical problems such as ‘code change and machine learning errors’ that artificial intelligence judges are prone to. Considering all these positive and negative aspects, substituting judges with artificial intelligence judges has the potential to cause some fundamental problems in terms of judicial justice. To illustrate, an advanced artificial intelligence

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<sup>33</sup> Kevin D Ashley, *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age*, (1st, Cambridge University Press 2017) 6.

<sup>34</sup> Legal Services Corporation (LSC) is the only funding provider in the country that provides legal aid for low-income Americans. Founded in 1974, LSC operates as an independent nonprofit that promotes equal access to justice and provides grants for high-quality legal aid to low-income Americans. See also, <<https://www.lsc.gov/about-lsc>> Date of Access 16 February 2021.

<sup>35</sup> Simshaw (n 22) 179.

<sup>36</sup> *ibid* 179.

program can result in significantly more cases being resolved than can be resolved by a judge, so hacking the relevant program can lead to an irreparable judicial justice problem.<sup>37</sup>

The mechanical performance of artificial intelligence judges creates a general situation of concern in terms of core values such as ‘human rights, freedom, equality and democracy’. So much so that the possibility of a computer judge having these values requires a higher level of competence in terms of machine learning in the long run. As a legal scholar, Eugene Volokh suggests that what matters in such a situation is the outcome, not the process. According to him, if an AI judge can make fairer decisions, it does not matter whether it has some virtues such as ‘wisdom’, ‘fairness’, and ‘compassion’. At this point, according to him, it is sufficient for the artificial intelligence judge to be able to make decisions that satisfy the public conscience.<sup>38</sup>

However, it does not seem possible to agree with this view, which reduces the profession of judging to the mechanical industry. Judicial virtues have three dimensions: judicial intelligence, judicial integrity, and judicial wisdom. The first of these virtues are aimed at competence in understanding and theorizing law.<sup>39</sup> According to the second virtue, the ‘good judge’ has to carry a personal concern at the point of loyalty to the rule of law and the consistency of the law.<sup>40</sup> As per the third virtue, the ‘good judge’ must have ‘practical wisdom’ in choosing the purposes and appropriate means of law.<sup>41</sup>

According to a joint study between Australia’s Swinburne University Law School and Queensland University of Technology, AI judges have the potential to be fairer than human judges. This study found that “courts in the *status quo* were influenced by arbitrary factors like race or socioeconomic status.” Also, the study found that one court in Victoria, was three times more likely to imprison offenders than other courts in the state. The studies’ authors think that “one centralized, consistent judge would be the logical solution, a physically impossible feat until now, with the development of AI.”<sup>42</sup>

Legal norms are ‘human work’ and ‘social actions’ and the reality of the application and interpretation of the law in each case. Implementing any legal norm is a difficult process because law can only exist ‘through

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<sup>37</sup> Eugene Volokh, ‘Chief Justice Robots’ (2019) 68 (1135) *Duke Law Journal* 1135, 1174.

<sup>38</sup> Volokh (n 36) 1189.

<sup>39</sup> Lawrence B Solum, ‘The Virtues and Vices of a Judge: An Aristotelian Guide to Judicial Selection’ (1988) 61 (1735) *Southern California Law Review* 1735, 1740.

<sup>40</sup> *ibid* 1735, 1740.

<sup>41</sup> *ibid* 1735, 1740.

<sup>42</sup> Park (n 2828289).

language' that clarifies interpretation.<sup>43</sup> Since algorithms<sup>44</sup> are written in a programming language or a technical language, the binary code system matches information through two symbol systems, the sequences '1' and '0'. Therefore, coding a legal technology software has two main translation difficulties. The first challenge is the difficulty in converting 'law' into a binary code.<sup>45</sup> The second challenge is to re-articulate this code in natural language. System-driven algorithms are generated from random inferences and translate social reality into binary code. But as a result of this process, these codes can only determine correlations, not causalities. The decision-making process is conditioned by the learning experiences of an artificial intelligence-driven system. This creates the possibility of causing structurally unpredictable decisions.<sup>46</sup> However, the fact that algorithms lack basic human values such as 'intuition, value judgment or holistic thinking' that affect the 'discretion and soft' decision-making process is another issue that should be evaluated.<sup>47</sup>

So, the act of interpreting legal norms is not a simple mechanical process of textual analysis. The interpretive process corresponds to a very complex intellectual process. In particular, this process requires the availability of supplementary information in cases where discretionary power is required. Consequently, the application of the law is an independent act of 'legal production'. In every legal issue, the law is reproduced as a 'social product'.<sup>48</sup>

Another risky situation is the creation of non-state-sponsored internet courts developed in China, mentioned above. This situation leads to the development of an understanding of 'sectoral judicial justice' outside the state that has jurisdiction. It causes large technology companies to create their own 'justice mechanisms' within the system they have developed within their own structure. The creation of private courts owned by corporations has the potential to create a new understanding of the legal order, which we can conceptualize as the '*privatization of justice*'.

Besides, it is necessary to log in to the system to take advantage of the service offered by China's Internet Court. The entry procedure required for access to this judicial service points to an additional problem area in terms of the right to protection of personal data including biometrics. For example, in this system, facial recognition technology is

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<sup>43</sup> Buchholtz (n 6) 182-183.

<sup>44</sup> 'An algorithm is a step-by-step procedure to perform a specific task or function. 'Code' is the concrete implementation of the relevant algorithm.' See also, *ibid* 178.

<sup>45</sup> *ibid* 183.

<sup>46</sup> *ibid* 183.

<sup>47</sup> *ibid* 183.

<sup>48</sup> *ibid* 182-183.

used. Although the demand for facial recognition technologies has grown enormously in recent years, the China Internet Court system encompasses a number of risks, such as “mass surveillance, disparate effect vulnerable groups, algorithmic<sup>49</sup> bias and lack of affirmative consent’.<sup>50</sup>” Therefore, it is necessary to make a comprehensive artificial intelligence ethics regulation.<sup>51</sup>

Another issue highlighted in the relevant literature on the use of artificial intelligence in the legal sector is whether these services constitute ‘unauthorized practice of law’.<sup>52</sup> Inquiries about who can and should not regulate such services are crucial. But there is no comprehensive guide on the framework for the use of artificial intelligence in the legal sector and what ethical obligations lawyers or judges will have in the face of this new situation.<sup>53</sup>

In addition to all these problems, it is requisite for both lawyers and legal service seekers to have access to AI services and related technologies to realize the potential benefits of AI in the field of law. Because if a person lacks basic internet access, it is impossible to use ‘online legal self-help’ services such as DoNotPay. This lack of access can be seen as a serious obstacle to improving access to justice with AI. Many people, especially the poor, lack access to the internet and other technological resources necessary to take full advantage of other emerging and potentially transformative technological resources.<sup>54</sup> Many people living in rural areas still have difficulties in accessing basic internet services. Therefore, access to digital technology, including artificial intelligence, should be made possible in the legal sector, whose main purpose is to ‘close the justice gap’.<sup>55</sup>

Rights-based concerns about the use of artificial intelligence in judicial activities are growing. In the face of these concerns, several new

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<sup>49</sup> See also, The Committee of Experts on Internet Intermediaries, *Algorithms And Human Rights*, Council of Europe (2018).

<sup>50</sup> Erik L Miller, Vicente Ordóñez, Jamie Morgenstern and Joy Buolamwini, ‘Facial Recognition Technologies in The Wild: A Call for A Federal Office’ (2020) Algorithmic Justice League <[https://global-uploads.webflow.com/5e027ca188c99e3515b404b7/5ed1145952bc185203f3d009\\_FR-TsFederalOfficeMay2020.pdf](https://global-uploads.webflow.com/5e027ca188c99e3515b404b7/5ed1145952bc185203f3d009_FR-TsFederalOfficeMay2020.pdf)> Date of Access 12 February 2021.

<sup>51</sup> “On 21 April 2021, the European Commission published its proposal for a Regulation on Artificial Intelligence (the “AI Regulation”). The proposal is the result of several years of work by the Commission including the publication of a “White Paper on Artificial Intelligence.” See. Arthur Cox, ‘The EU’s new Regulation on Artificial Intelligence’ (2021) <<https://www.arthurcox.com/knowledge/the-eus-new-regulation-on-artificial-intelligence/>> Date of Access 2 June 2021.

<sup>52</sup> Simshaw (n 22) 173.

<sup>53</sup> *ibid* 173.

<sup>54</sup> *ibid* 184.

<sup>55</sup> *ibid* 184.

non-governmental organizations, such as the Algorithm Justice League,<sup>56</sup> have begun to operate. The criticisms of automatic judgment are divided into four main categories. First, these systems have the ‘potential for arbitrariness and discrimination’. As an example, there is some evidence that the COMPAS (*Correctional Offender Management Profiling for Alternative Sanctions*)<sup>57</sup> the algorithm used in U.S. courts discriminates against African-American defendants by using structural background data. Second, there are concerns about the ‘legal accuracy’ of the decisions made by this system due to the complex nature of algorithms, judicial decision-making has the potential to specialize in producing ‘bespoke’ judicial decisions.<sup>58</sup> Third, algorithmic systems lack transparency in terms of ‘justification of judicial decisions’, which is a fundamental principle of justice.<sup>59</sup> Since the automated decision-making process is not capable of explaining legal reasons, the parties to the case may be deprived of access to legal grounds. And these legal grounds have critical importance for the appeal procedure of a case. Also, due to the intellectual property restrictions of the algorithms in the software, there may be some restrictions in accessing the reasons for the decisions. The final rights-based concern is that the automatic judicial mechanisms used in judicial activity reveal the potential to increase ‘*justice division*’ between the parties.<sup>60</sup> This division of justice, which has the potential to undermine access to justice for citizens, needs to be questioned on an ethical basis.

### 3. Artificial Intelligence in Legal Professions: An Ethical-Juridical Inquiry

It can be stated that artificial intelligence technology, which has the potential to reshape every aspect of our lives, has a significant potential in securing human rights. Evaluating this potential and minimizing the risks that may arise is essential. Artificial intelligence technology carries some vital risks especially in terms of ‘security, democracy, and human dignity’.<sup>61</sup> Therefore, the ethical problems of

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<sup>56</sup> <<https://www.ajl.org/>> Date of Access 2 June 2021.

<sup>57</sup> COMPAS, a system currently owned by the Equivant company, is used in several jurisdictions in U.S. states to assess an individual’s risk of reoffending. It is a web-based tool designed to assess the criminogenic needs of offenders and the risk of reoffending. See, Boriss Cilevičs, ‘Justice by Algorithm: The Role of Artificial Intelligence in Policing and Criminal Justice Systems’ (2020) Committee on Legal Affairs and Human Rights, AS/Jur 11.

<sup>58</sup> The Law Society, ‘Artificial Intelligence and the Legal Profession’ (2018) England and Wales, 11.

<sup>59</sup> The Law Society (n 57) 11.

<sup>60</sup> Malcolm Langford, ‘Taming the Digital Leviathan: Automated Decision-Making and International Human Rights’ (2020) 114 Cambridge University Press 141, 144.

<sup>61</sup> Virginia Dignum, *Responsible Artificial Intelligence: How to Develop and Use AI in a Responsible Way* Barry O’Sullivan and Michael Wooldridge (eds) (Springer 2019) 71

LegalAI practices should be taken seriously and evaluated under an ethical framework that supports human values and dignity. Indeed, the onto-juridic justification of human rights, which conceptualizes demands for rights and freedoms, is essentially an ethical justification.<sup>62</sup> In a sense, the legitimacy of all claims based on human rights is based on ethics. Use of artificial intelligence is closely linked to basic principles such as ‘privacy, health, security, freedom, dignity, autonomy, self-determination and non-discrimination’. It is seen that all of these are issues that also contain ethical concerns.<sup>63</sup>

However, algorithms that operate artificial intelligence lack an ‘ethical compass’.<sup>64</sup> The role of ethics in conducting electronic interactions between individuals, businesses and the internet of things is to identify moral obligations or sensitivities to human values arising from the interaction of individuals with technology.<sup>65</sup> Thus, the direct application of LegalAI technology to the legal system brings ethical problems such as ‘gender bias and racial discrimination’.<sup>66</sup> To solve this ethical problem,<sup>67</sup> it should be pointed out that LegalAI’s purpose is not to substitute the legal professions but to contribute to the more competent execution of these professions.<sup>68</sup>

One of the biggest challenges posed by the use of artificial intelligence in the judicial sector is to adapt to the rights and basic principles contained in the European Convention on Human Rights (ECHR) and ECHR case law. As stated in the European Ethical Charter,<sup>69</sup> artificial intelligence must comply with the basic principled rights contained in the ‘right to a fair trial’, such as the principle of legal judges; the ‘right to an independent and impartial tribunal’; and the principle of ‘equality of arms’.<sup>70</sup> Parameters or variables used in artificial intelligence

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<sup>62</sup> Mihalis Kritikos, ‘Artificial Intelligence ante portas: Legal & Ethical Reflections’ (2019) European Parliamentary Research Service, <[https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/634427/EPRS\\_BRI\(2019\)634427\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/634427/EPRS_BRI(2019)634427_EN.pdf)> Date of Access 10 February 2021.

<sup>63</sup> Kritikos (n 61).

<sup>64</sup> Buchholtz (n 5) 187.

<sup>65</sup> The Law Society (n 57) 13.

<sup>66</sup> Zhong, Xiao, and Tu (n 16) 10.

<sup>67</sup> See also, Michael Steinmann, Jeff Collmann and Sorin Adam Matei, ‘A Theoretical Framework for Ethical Reflection in Big Data Research’ in Jeff Collman and Sorin Adam Matei (eds) *Ethical Reasoning in Big Data: An Exploratory Analysis* (Springer 2016).

<sup>68</sup> Zhong, Xiao, and Tu (n 16) 10.

<sup>69</sup> <<https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699c>> Date of Access 13 February 2021.

<sup>70</sup> Elisa Alfaia, João J Sampaio, Paulo Seixas and Gomes Jorge, ‘Artificial Intelligence and The Judicial Ruling’, (2019) <<https://www.ejtn.eu/PageFiles/17916/TEAM%20PORTUGAL%20I%20TH%202019%20D.pdf>> Date of Access 14 February 2021.

systems can raise doubts about judicial independence. At this point, it is necessary to protect the basis of judicial decisions in principle. Another ethical concern relates to the fact that mechanized judicial decisions can dogmatically have an ‘anchoring effect’ without regard to ‘substantial justice’. In the event of an evidence-based AI decision, the judge will inevitably tend to follow and / or apply the AI’s decision by abandoning his own decision.<sup>71</sup>

One of the most important current issues is that these systems carry the risk of ‘bias’ in the algorithmic decision-making process. When government officials use machine learning or other AI models in the process of making important decisions affecting people’s lives or freedoms -for example, in the enforcement of individuals- it is necessary to determine whether these algorithmic systems treat people fairly and equally. Many “critics have raised the possibility that computer models that learn patterns” from the data can be used against certain groups of the ‘biased situation’ processed into the system’s data.<sup>72</sup>

As progress is made in the field of artificial intelligence algorithms, it becomes difficult to understand their inner procedure. In decision-making processes about what to include or exclude in algorithmic output, algorithms usually have to go through a step that prioritizes information. Algorithmic bias is as real a threat as human bias. Indeed, data ‘processed’ into an artificial intelligence system may contain systematic bias. So, ultimately the system can create “racial profiling and ‘white male’ bias.”<sup>73</sup> Even algorithmic bias can have a more dangerous dimension than human bias. Because these technical mechanized systems do not carry an element of humanity, they pose more risk in terms of bias. The good faith or bad faith of the mind, or the attitude against human rights, which develops the algorithmic equipment of the system, has the potential to turn into systematic ‘bias violence’.

In addition to algorithmic biases, weak or erroneous datasets used by AI systems are also a concern. Artificial intelligence based on artificial neural networks identifies repeating patterns in existing data sets and makes predictions based on these patterns. However, systems carry heavy risks, such as repeating or even magnifying biases and flaws in data sets of AI.<sup>74</sup>

As a result, we are witnessing an increasingly digital age. This dynamic of development affects many systems in the world and this interaction also manifests itself in the judicial sector. However, the use of

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<sup>71</sup> Alfaia, Sampaio, Seixas and Jorge (n 70) 18.

<sup>72</sup> Surden (n 21) 1336.

<sup>73</sup> The Law Society (n 57) 12.

<sup>74</sup> Ronald Yu and Gabriele S Ali, ‘What’s Inside the Black Box? AI Challenges for Lawyers and Researchers’ (2019) 19 (1) *Legal Information Management* 1, 4.

artificial intelligence in the judicial sector has special importance. Because judicial justice constitutes the basic guarantee of democratic societies, analyzing the risks posed by artificial intelligence for humanity emerges as an important issue, especially in the field of jurisdiction. As a matter of fact, the use of artificial intelligence-based applications as a decision-making mechanism in legal proceedings brings along some risks. Judicial power is a decision-making process based on the ‘human’ element. Each case and incident have its characteristics, and this necessitates the judge to deal with each case within the framework of its characteristics. But, when artificial intelligence is placed at the center of the decision-making mechanism, because of the processing of the data of that case into this system, there is the risk that a decision will be made based on the data set without conducting other necessary research that the judges in similar cases would conduct. Thus, instead of placing artificial intelligence at the center of the judgment, artificial intelligence systems should be thought as providing advisory decisions rather than final provisions and can be included among the ‘secondary sources’ of the law.

#### **4. Potential Effects of Artificial Intelligence on Legal Professions**

The legal services sector around the world is facing pressures to innovate and transform in a variety of fields. Advances in the field of artificial intelligence and the emergence of data-based technologies point to significant disruptions in the fundamental practices of the law. More “importantly, the disruptive potential of such new technologies” will be “greater in the legal services sector” due to the technology currently underutilized.<sup>75</sup> Indeed, John McGinnis and Russell Pearce argue “that machine intelligence will cause a ‘great disruption’” to the legal services market.<sup>76</sup>

In this way, it is predicted that big data and artificial intelligence can transform the production and consumption of the law and even change the nature of the law. The rise of artificial intelligence in the legal service sector is described as a harbinger of ‘catastrophic change’.<sup>77</sup> In legal practice, artificial intelligence has many functions that make it possible for lawyers to perform their profession faster and more competently such as ‘collecting information, preparing cases, predicting case results and automation of document management’. So much so that, a company applying the right technological tools can create, analyze or extract

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<sup>75</sup> Chay Brooks, Cristian Gherhes and Tim Vorley, ‘Artificial Intelligence in the Legal Sector: Pressures and Challenges of Transformation’ (2020) 13(1) *Cambridge Journal of Regions Economy and Society* 135, 135.

<sup>76</sup> Benjamin Alarie, Anthony Niblett and Albert H. Yoon, ‘How Artificial Intelligence Will Affect the Practice of Law’ (2018) 68 (1) *University of Toronto Law Journal* 106, 122.

<sup>77</sup> Logol (n 14).



documents 4-5 times faster than before. Moreover, there are processes in which artificial intelligence can operate autonomously, and the productivity increase in these areas is remarkable.<sup>78</sup>

This technology will radically change the way lawyer's approach legal research soon, as well as helping lawyers in traditional practice processes. Machine intelligence will not only reveal precedents, it will also act as a guiding machine on how lawyers will use these precedents.<sup>79</sup> In '*Civilization 2030: Near Future for Law Firms*', a report regarding the use of artificial intelligence in the judiciary, Jomati Consultants,<sup>80</sup> the UK's leading international management consultancy specializing in the legal profession, predicted that workplace robots and artificial intelligence systems will reach a certain production level at the end of the long experimental and incubation period until 2030, and with the incredible acceleration of technology, artificial intelligence will spread rapidly very soon. In this framework, it is thought that the rate of manpower needed by the sector will decrease due to the expansion of artificial intelligence use in the legal sector.<sup>81</sup>

Undoubtedly, AI services that take on the increasingly central components of legal research and case development will continue to be in great demand. Such advanced services will raise several problems with their moral and ethical consequences, and inevitably the question of whether 'robot lawyers' will replace human lawyers.<sup>82</sup> Indeed, in United States, many applications called 'robot lawyers' are already in use, which can provide legal information to plaintiffs or lawyers.<sup>83</sup> Legal tech and start-ups that specialize in the design of new legal services can help the European legal professions; it offers new practices to make the "consultation on law and case law more effective", to recommend jurisdictions, "to review all documents of a company", and to identify contractual clauses.<sup>84</sup>

Many lawyers think that some lawsuits and business processes related to the legal profession cannot be substituted with artificial intelligence. In this framework, lawyers state that computers cannot think

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<sup>78</sup> *ibid.*

<sup>79</sup> Simshaw (n 23) 194.

<sup>80</sup> See also <<http://jomati.com/>> Date of Access 17 February 2021.

<sup>81</sup> 'Yapay Zeka Hukuk Firmalarının Yapısal Çöküşünü Getirebilir' (2016) <<https://www.digitaltalks.org/2015/12/25/yapay-zeka-hukuk-firmalarinin-yapisal-cokusunu-getirebilir/>> Date of Access 14 January 2021.

<sup>82</sup> Simshaw (n 23) 189.

<sup>83</sup> CEPEJ, 'Justice of the Future: Predictive Justice and Artificial Intelligence' (2018) <<https://rm.coe.int/newsletter-no-16-august-2018-en-justice-of-the-future/16808d00c8>> Date of Access 10 February 2021.

<sup>84</sup> CEPEJ (n 83).

or feel and therefore cannot have judgment or empathy.<sup>85</sup> Yet, Richard Susskind<sup>86</sup> argues that as the digital capabilities of machines become more sophisticated, lawyers will substitute their jobs and that lawyers will face the problem of employment as professional skills change.<sup>87</sup> As maintained by Susskind, this situation cannot be considered an imminent threat for lawyers. According to the Susskind's prediction; in the 2020s, artificial intelligence will not take on the professional duties of lawyers and confront them with the 'unemployment problem'. However, within the framework of changing the scope of their professional duties, lawyers will have to undertake different business processes. In the longer term, it is difficult to avoid the conclusion that there will be far less need for lawyers.<sup>88</sup>

Artificial intelligence judges, which are predicted to replace judges in the future, will not be able to produce precedent decisions due to social change, and will lead to a regulatory gap of obsolescence in creating new legal precedents. Naturally, this would render the legal doctrine dysfunctional. Also, the substitution of judges with artificial intelligence applications will cause a dangerous situation on the general legal system, as it will cause the legal system to lose the 'ability to update itself'. Substitution AI judges will hinder the systemic development of law by 'stagnating' legal interpretation and dulling the legal doctrine. Although the future artificial intelligence judges may have the capacity to conclude complex cases, it is unlikely that their decisions will create a new paradigm in the legal doctrine and that the relevant decisions will be a basis for the legal doctrine by the society.<sup>89</sup>

Though it is predicted that artificial intelligence can replace legal professions in terms of future projection, the report titled '*Jobs Lost, Jobs Gained: Workforce Transitions in A Time of Automation*' published by the McKinsey Global Institute provides some striking data.<sup>90</sup> According to this report, a change in the occupational categories of 75 million to 375 million workers (3 to 14 percent of the global workforce) is projected by

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<sup>85</sup> Richard Susskind, *Tomorrow's Lawyers: An Introduction to Your Future* (2th, Oxford University Press 2017) 188.

<sup>86</sup> Richard Susskind, a pioneer in information technology and law, is Technology Adviser to the Lord Chief Justice of England and Wales. See, <<https://www.oii.ox.ac.uk/people/richard-susskind/>> Date of Access 13 February 2021.

<sup>87</sup> Susskind (n 84) 188.

<sup>88</sup> *ibid* 188.

<sup>89</sup> Gutierrez Gaviria and Carlos Ignacio, *The Unforeseen Consequences of Artificial Intelligence (AI) on Society A Systematic Review of Regulatory Gaps Generated by AI in the U.S.* (2020) RAND Corporation, Dissertation 121.

<sup>90</sup> McKinsey Global Institute, '*Jobs Lost, Jobs Gained: Workforce Transitions in A Time of Automation*' (2017) 66.

2030.<sup>91</sup> All employees will need to adapt to this situation as their professional fields are improved with increasingly skilled machines. According to this report, professions that require pure human skills, including ‘social and emotional interaction, high-level logical reasoning, creativity and expertise’ practices, will be less affected by automation processes because robots have not been able to achieve sufficient success in areas that require these competencies. However, as per the report, the USA, Germany, and Japan are between 5% and 24% employment of judges and lawyers; in China and India, a decrease in the employment of judges and lawyers is expected between 25% and 49%.<sup>92</sup>

Contrary to these predictions, there is an opinion that legal professions, as well as some other professions, are immune from the transformative effect of technology due to their positions.<sup>93</sup> This view does not mean that the legal profession does not adapt to new technological developments. It is thought that many professional occupational lines cannot be automated due to their nature. As a matter of fact, many business lines are transforming in line with new technologies. However, the ‘substitution function’ of artificial intelligence in professional activities is seen as a valid threat in terms of mechanical business lines that are not considered as ‘professional professions’.<sup>94</sup> On the other hand, ‘professional professions’ are thought to contain ‘much more judgment ability, evaluation skills and cognitive ability’, which is supposed to be beyond the replication capacity of algorithms and machines.<sup>95</sup>

Consequently, predictions about the effects of technology on professional practice are driven by a discussion that professions, including the legal profession, often reproduce the reasons for their self-maintenance. To illustrate, in the second half of the twentieth century, Ivan Illich wrote his article titled ‘*Disabling Professions*’.<sup>96</sup> According to Illich, skilled professionals claim that only the ‘secret knowledge’ about human nature, which they think they have the right to reveal, has its merits. They claim to have a ‘knowledge monopoly’ over the definition of deviance and remedies needed. For instance, lawyers claim that only they have the competence legal right to offer legal assistance in terms of divorce processes.<sup>97</sup> At this point, the professional monopoly envisaged

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<sup>91</sup> McKinsey Global Institute (n 89).

<sup>92</sup> *ibid.* Also see. World Economic Forum, *The Future of Jobs Report* (2020).

<sup>93</sup> Brian Simpson, ‘Algorithms or Advocacy: Does the Legal Profession Have A Future in A Digital World?’ (2016) 25 (1) *Information & Communications Technology* 50, 52.

<sup>94</sup> Simpson (n 92) 50, 52.

<sup>95</sup> *ibid.* 50, 52.

<sup>96</sup> Ivan Illich, ‘Disabling Professions’ in Ivan Illich, John McKnight and Jonathan Caplan (eds) *Disabling Professions* (Marion Boyars 1977) 19.

<sup>97</sup> Illich (n 95) 19.

by Illich is about the existence of material wealth for the relevant professionals.<sup>98</sup> Therefore, the members of the relevant profession are expected to defend their professional position or existence to preserve the said wealth. Debates about the future of a profession are, after all, not just a matter of intellectual purity or professional status. In addition, the narratives about the ‘sacred roles’ assigned by the members of the profession explain the reason for the emergence of resisting, denial, or blindness against the influence of technology in terms of the legal profession.<sup>99</sup> It is important to note that discussions about the impact of new technologies on legal practice are not driven by some form of ‘technological determinism’.<sup>100</sup>

### Conclusion

‘Legal knowledge’ is at the center of law and justice service. We are witnessing a dynamic change in the infrastructure of information, including the law and information about the law, that is changing the structure of our legal systems. According to Richard Susskind, in the age of transhumanism,<sup>101</sup> all legal order structures will be embedded in work practices or will eventually be embedded in our brains or in chips and networks that can be accessed remotely.<sup>102</sup> Susskind also states that for the time being, we are at the end of the transition phase between the third and fourth stages of development, between the print-based industrial society and the technology-based internet society. If we examine how the law has evolved throughout history, we can understand the changes mentioned in terms of these transformations in the information infrastructure. So, in essence, the law is a knowledge-based disciplinary field. Today, we too are in the middle of an information revolution.<sup>103</sup>

This information revolution leads to an exponential increase in new technologies, the volume, and the types of data available, creating unprecedented opportunities to inform and transform society. In a sense, this is ‘*a data revolution*’.<sup>104</sup> As a result of this data revolution, Big Brother is being replaced by Big Data. A ‘*transparency society*’ is

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<sup>98</sup> *ibid* 19.

<sup>99</sup> *ibid* 19.

<sup>100</sup> Simpson (n 61) 51.

<sup>101</sup> “Transhumanism is a movement that promotes the use of cutting-edge scientific and technological inventions aimed at improving people’s physical and cognitive abilities.” See. Muharrem Kılıç, ‘Hukuksal Akılın Transhümanistik Temsilleri ve Onto-robotik Varoluş Formları’ (2021) 66 *Adalet Dergisi* 29.

<sup>102</sup> Susskind (n 84) 192.

<sup>103</sup> *ibid* 192.

<sup>104</sup> The United Nations Secretary-General’s Independent Expert Advisory Group on a Data Revolution for Sustainable Development, *A World that Counts Mobilising the Data Revolution for Sustainable Development*, (2014) 5-6.

emerging that records every detail of everyday life without gaps, creating a ‘*digital panopticon*’ that generates a new surveillance technology.<sup>105</sup>

As Susskind has stated, a ‘legal revolution’<sup>106</sup> taking place in the legal sector is expected to dramatically change the duties and definitions of the duties of those who practice in the legal profession in the coming years. This change is driven by information and communication technology (ICT), which shows exponential growth in power and goes beyond just automating existing applications.<sup>107</sup>

Today, an ‘*artificial intelligence revolution*’ is taking place that will reshape legal research in both the private sector and academia. As a result of this artificial intelligence revolution, it is predicted that the legal sector will undergo radical changes.<sup>108</sup> Legal AI makes the use of artificial intelligence in the legal sector attractive for reasons such as ‘increasing access to justice, reducing workload and unnecessary paperwork, allowing the case to be concluded in a short time’. However, there are some risks and opportunities that are likely to arise from artificial intelligence applications in the judicial sector. Artificial intelligence-based applications, which are widespread in the legal sector, carry the risk of ‘*commodification of legal knowledge*’.

Also, artificial intelligence is directly linked to “human safety, health and safety, liberty, confidentiality, integrity, dignity, autonomy, and non-discrimination,” and these also include ethical concerns. AI systems carry the risk of ‘bias’ in the algorithmic decision-making process. So, especially in terms of criminal justice, it is impossible to substitute a judge who decides according to his conscientious opinion with an artificial reason. Therefore, when the basic principles of law are considered, the realization of criminal justice through artificial intelligence brings some basic ethical-juridic concerns. Because the judge applies legal norms by interpreting them in his conscientious opinion when reaching a judicial decision in criminal justice. Within the framework of all these evaluations, it is necessary to make an ethical-juridical inquiry of artificial intelligence applications that demonstrate dynamic development in terms of legal professions and law practice. Thus, ethics derives several frameworks in the name of the promotion of human dignity. One not to ignore the risks of artificial intelligence technologies but determine the legal and ethical frameworks within which AI should be used in the legal profession to future justice and increase

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<sup>105</sup> Byung Han Chul, *Kapitalizm ve Ölüm Dürtüsü*, (1st, İnka Kitap 2021) (trans. Çağlar Tanyeri) 39.

<sup>106</sup> Susskind (n 84) 192.

<sup>107</sup> Niels Netten, Sunil Choenni and Frans Leeuw, ‘The Rise of Smart Justice: on the Role of AI in the Future of Legal Logistics’ (2016) Conference: Artificial Intelligence for Justice 3.

<sup>108</sup> Yu and Spina A (n 73) 2.

access to legal services. Otherwise, the use of artificial intelligence in the legal sector risks causing irreparable damage.

### **Bibliography**

Alarie B, Niblett A and Yoon, A. H., 'How Artificial Intelligence Will Affect the Practice of Law' (2018) 68 (1) University of Toronto Law Journal 106-124.

Alfaia E, Sampaio JJ, Seixas P and Jorge G, 'Artificial Intelligence and The Judicial Ruling' (2019) <<https://www.ejtn.eu/PageFiles/17916/TEAM%20PORTUGAL%20I%20TH%202019%20D.pdf>> Date of Access 14 February 2021.

Alston P, 'Report of the Special Rapporteur on Extreme Poverty and Human Rights' (2019) A/74/48037.

Ashley, Kevin D., *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age* (1st edn, Cambridge University Press 2017).

Brooks C, Gherhes C and Vorley T, 'Artificial Intelligence in the Legal Sector: Pressures and Challenges of Transformation' (2020) 13 (1) Cambridge Journal of Regions Economy and Society 135-152.

Buchholtz G, 'Artificial Intelligence and Legal Tech: Challenges to the Rule of Law' in Thomas W and Timo R (eds) *Regulating Artificial Intelligence*, (Springer 2020).

Cilevičs B, 'Justice by Algorithm: The Role of Artificial Intelligence in Policing and Criminal Justice Systems' (2020) Committee on Legal Affairs and Human Rights, AS/Jur 11.

Dignum V, *Responsible Artificial Intelligence: How to Develop and Use AI in a Responsible Way* Barry O'Sullivan and Michael Wooldridge (eds) (Springer 2019).

Gutierrez G and Carlos I, *The Unforeseen Consequences of Artificial Intelligence (AI) on Society A Systematic Review of Regulatory Gaps Generated by AI in the U.S.* (2020) RAND Corporation, Dissertation.

Han Chul B, *Kapitalizm ve Ölüm Dürtüsü*, (1st, İnkı Kitap 2021) (trans. Çağlar Tanyeri).

Illich I, 'Disabling Professions' in Ivan Illich, John McKnight and Jonathan Caplan(eds) *Disabling Professions* (Marion Boyars, 1977).

Kauffman, Marcos Eduardo; Soares, Marcelo Negri, 'AI in Legal Services: New Trends in AI-Enabled Legal Services' (2020) 14 *Service-Oriented Computing and Applications* 223-226.

Kılıç M, 'Ethico-Juridical Dimension of Artificial Intelligence Application in the Fight Against Covid-19 Pandemics' in Sezer B Kahyaoğlu (ed) *The Impact of Artificial Intelligence on Governance, Economics and Finance* (Springer, 2021).

Kılıç M., 'Hukuksal Aklın Transhümanistik Temsilleri ve Onto-robotik Varoluş Formları' (2021) 66 *Adalet Dergisi* 15-54.

Kritikos M., 'Artificial Intelligence ante portas: Legal & Ethical Reflections' (2019) European Parliamentary Research Service, <[https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/634427/EPRS\\_BRI\(2019\)634427\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/634427/EPRS_BRI(2019)634427_EN.pdf)> Date of Access 10 February 2021.

Kumar V, 'AI Moves to Court: The Growing Footprints of AI in The Legal Industry' (2020) <<https://www.analyticsinsight.net/ai-moves-court-growing-footprint-ai-legal-industry/>> Date of Access 13 February 2021.

Langford M, 'Taming the Digital Leviathan: Automated Decision-Making and International Human Rights' (2020) 114 *Cambridge University Press* 141-146.

Logol, *Artificial Intelligence in the Legal Profession* (2020) <<https://www.logol.com/media/Logol-WP1-AI-in-the-legal-profession-03.06.2020.pdf>> Date of Access 12 January 2021.

McKinsey Global Institute, 'Jobs Lost, Jobs Gained: Workforce Transitions in A Time of Automation' (2017)

Miller E, Ordóñez V, Morgenstern J and Buolamwini J, 'Facial Recognition Technologies in The Wild: A Call for A Federal Office' (2020) *Algorithmic Justice League* <[https://globaluploads.webflow.com/5e027ca188c99e3515b404b7/5ed1145952bc185203f3d009\\_FRTsFederalOfficeMay2020.pdf](https://globaluploads.webflow.com/5e027ca188c99e3515b404b7/5ed1145952bc185203f3d009_FRTsFederalOfficeMay2020.pdf) > Date of Access 12 February 2021.

Netten N, Choenni S and Leeuw F, 'The Rise of Smart Justice: on the Role of AI in the Future of Legal Logistics' (2016) *Conference: Artificial Intelligence for Justice*.

Park J, 'Your Honor, AI' (2020) *Harvard International Review* <<https://hir.harvard.edu/your-honor-ai/>> Date of Access 15 January 2021.

Simpson B, 'Algorithms or Advocacy: Does the Legal Profession Have A Future in A Digital World?' (2016) 25 (1) *Information & Communications Technology* 50-61.

Simshaw D, 'Ethical Issues in Robo-Lawyering: The Need for Guidance on Developing and Using Artificial Intelligence in the Practice of Law' (2018) 70 (173) *Hastings Law Journal* 173-213.

Sobowale J, 'How Artificial Intelligence is Transforming The Legal Profession' (2016) *ABA Journal*  
<[https://www.abajournal.com/magazine/article/how\\_artificial\\_intelligence\\_is\\_transforming\\_the\\_legal\\_profession?utm\\_source=i](https://www.abajournal.com/magazine/article/how_artificial_intelligence_is_transforming_the_legal_profession?utm_source=i)> Date of Access 12 January 2021.

Solum L, 'The Virtues and Vices of a Judge: An Aristotelian Guide to Judicial Selection' (1988) 61 (1735) *Southern California Law Review* 1735-1756.

Steinmann, M, Collmann, J and Matei S, 'A Theoretical Framework for Ethical Reflection in Big Data Research' in Jeff Collman and Sorin Adam Matei (eds) *Ethical Reasoning in Big Data: An Exploratory Analysis* (Springer, 2016).

Surden H, 'Artificial Intelligence and Law: An Overview' (2019) 35(4) *Georgia State University Law Review* 1305-1337.

Susskind, R, *Tomorrow's Lawyers: An Introduction to Your Future* (2th edn, Oxford University Press, 2017)

The Committee of Experts on Internet Intermediaries, *Algorithms and Human Rights*, Council of Europe (2018).

The Law Society, 'Artificial Intelligence and the Legal Profession' (2018) England and Wales.

The United Nations Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development, *A World that Counts Mobilising the Data Revolution for Sustainable Development* (2014).

Volokh E, 'Chief Justice Robots' (2019) 68 (1135) *Duke Law Journal* 1135-1192.

Yu R and Spina AG, 'What's Inside the Black Box? AI Challenges for Lawyers and Researchers' (2019) 19(1) *Legal Information Management* 1-13.

Zhong H, Xiao C and Tu C, 'How Does NLP Benefit Legal System: A Summary of Legal Artificial Intelligence' (2020) *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*.

Zou M, 'Smart Courts in China and the Future of Personal Injury Litigation' (2019) Oxford University Press.

### **Internet Sources**



‘Yapay Zeka Hukuk Firmalarının Yapısal Çöküşünü Getirebilir’ (2016) <<https://www.digitaltalks.org/2015/12/25/yapay-zeka-hukuk-firmalarinin-yapisal-cokusunu-getirebilir/>> Date of Access 14 January 2021.

<<https://www.g2.com/products/ross-intelligence-ross/competitors/alternatives>> Date of Access 3 June 2021.

<<http://jomati.com/>> Date of Access 17 February 2021.

<<http://odtuteknokent.com.tr/tr/haber/kodex-bilisimden-yargitay-davalarina-yapay-zekali-destek>> Date of Access 15 January 2021.

<<https://blog.rossintelligence.com/post/announcement>> Date of Access 12 February 2021.

<<https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699c>> Date of Access 13 February 2021.

<<https://rossintelligence.com/about-us>> Date of Access 12 February 2021.

<<https://www.ajl.org/>> Date of Access 2 June 2021.

<<https://www.lsc.gov/about-lsc>> Date of Access 16 February 2021.

<<https://www.oii.ox.ac.uk/people/richard-susskind/>> Date of Access 13 February 2021.

Arthur Cox, ‘The EU’s new Regulation on Artificial Intelligence’ (2021) <<https://www.arthurcox.com/knowledge/the-eus-new-regulation-on-artificial-intelligence>> Date of Access 2 June 2021.

CEPEJ, ‘Justice of the Future: Predictive Justice and Artificial Intelligence’ (2018) <<https://rm.coe.int/newsletter-no-16-august-2018-en-justice-of-the-future/16808d00c8>> Date of Access 10 February 2021.

China Justice Observer (2019) <<https://www.chinajusticeobserver.com/a/supreme-peoples-court-issues-a-white-paper-on-china-court-and-internet-judiciary>>, Date of Access 2 June 2021.

Jiang Wei (2019) <<http://www.chinadaily.com.cn/a/201901/24/WS5c4959f9a3106c65c34e64ea.html>> Date of Access 15 January 2021.