

# AI & LAW: THE IMPACT ON LEGAL EDUCATION

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**Abstract:** *This paper analyses the impact of rapidly growing field of Artificial Intelligence and Law (AI & Law) on the legal higher education. AI (especially machine learning, ML) has a chance to change the legal profession. With relation to the legal industry automation processes, it may be argued that the AI is currently replacing only specific tasks, not the entire profession. However, it is not certain for how long this thesis will remain valid. AI transforms the legal domain for the better. However, it does not necessarily mean that it will change for the better for every lawyer. In order to adjust the new generations of law students to the changing technological reality, it is necessary to consider modifications in legal education. The purpose of the paper is to outline these transformations and their possible consequences.*

## 1. Introduction

The legal education usually appreciates tradition more than experimentation. Also, the attitude of lawyers towards technological innovations is generally rather cautious. During last 30 years legal sphere has undergone quite significant technological evolution – moving from paper to electronic reality. Every generation of lawyers must face a technological change. The one that encounters young lawyers and law students today is disruptive. Artificial intelligence systems are beginning to transform legal market, the manner in which legal services are delivered and the lawyers' way of working. As a result, also the education of lawyers should be adjusted to the new technological reality.

Modern AI solution used in the legal sphere (mostly based on machine learning models) are used in a variety of ways: in advanced legal information retrieval systems, as a support while drafting legal acts or performing legal analysis, as legal chatbots or the predictive analytics systems. Such systems (more or less advanced) are created every day and the legal AI market is constantly developing. Some of the aforementioned solutions are applied in systems aimed at legal services facilitation and acceleration and concerned the automation of non-substantive, technical legal activities. But the other part of them are used in order to automate substantive activities, performed currently by the qualified lawyers<sup>1</sup>. Such automation naturally results in replacement (at least partial) of the lawyers (at least some of them) with AI systems. The expression «to replace lawyers» gives rise to various feelings among lawyers<sup>2</sup>: some of them feel distaste, others are afraid, some may feel irritated due to their beliefs that lawyers are profession not threatened by the work automation processes<sup>3</sup>. But in some measure they are.

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<sup>1</sup> GOODMAN, AI/ESQ.: Impacts of artificial intelligence in lawyer-clint relations, Oklahoma Law Review 2019, Vol. 72, Number 1, p. 150.

<sup>2</sup> This may be partially caused by the media reports regarding artificial intelligence tools and their impact on the legal profession. When following them regularly, one may be led to the cognitive dissonance. Some headlines ensure that the supremacy of AI tools over the lawyers and the incoming end of their careers is inevitable. On the other hand, the other headlines assure that AI techniques will be useful for legal services automation, however will not replace professional lawyers.

<sup>3</sup> WATKINS/SIMON, AI and the Young Attorney: What to Prepare for and How to Prepare, Landslide 2019, Vol. 11, No. 3. Also available online: [https://www.americanbar.org/groups/intellectual\\_property\\_law/publications/landslide/2018-19/january-february/ai-young-attorney/](https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2018-19/january-february/ai-young-attorney/), access: 2019-10-31.

To develop someone's own judgment on this issue, a prior understanding of what the artificial intelligence is, is required. The main purpose of the AI researchers has always been creation of a system equipped with an ability of independent thinking: perceiving, understanding, predicting or concluding. Speaking of the artificial intelligence, its potential creators assume development of the artificial mind, with intelligence equal, or even superior to human intelligence. This objective of creating the «thinking machine» has not yet been achieved. Nevertheless, the creators of artificial intelligence have reached many intermediate goals. Most of them can be used in order to automate activities performed traditionally by lawyers. For this reason, the paper deals only with the «specialized AI», i.e. the methods of artificial intelligence concentrated on one specific task. Such specialized AI systems already function in various areas of life, proving often their effectiveness, accuracy or speed, which is incomparable to the one presented by humans. Therefore, it should be noted that in some narrow fields of science, AI systems has already outperformed people in activities, which requires from humans to carry out (usually complex) thinking process.

As a good example of such outperformance of AI (aside from such renowned cases as beating humanity's best Go or chess players) may serve beating lawyers in reviewing Non-Disclosure Agreements (NDAs)<sup>4</sup>. The accuracy of the AI system from LawGeex was 94 percent, while the lawyers achieved an average of 85 percent. As to the speed, the lawyer took around 92 minutes to finish reviewing the contracts. LawGeex's AI, on the other hand, only needed 26 seconds<sup>5</sup>.

Another interesting example of AI beating lawyers is the competition between the system named Case-Cruncher Alpha and over hundred professional attorneys in predicting outcomes of almost 800 real, historic insurance misselling claims received by the Financial Ombudsman Service. The goal was to correctly determine if the claim would succeed or not. According to the authors of the system, the software predicted outcomes with 86.6 percent accuracy, while the lawyers were 62.3 percent correct<sup>6</sup>.

The world of legal AI will grow in the upcoming years. It seems a right moment to start serious analysis on the impact of artificial intelligence on the legal education. Both academics and educational policy-makers should be interested in preparing young lawyers for surviving in the rapidly developing AI reality. Where should we start? What changes should we prepare for? To answer those questions, the subsequent part of this paper will be divided into two parts devoted to: 1) necessary modifications of legal education enabling young lawyers to adjust to the new legal market, and 2) usage of AI as an educational tool.

## **2. AI on legal market: necessary changes in legal education**

In principle, higher education will be greatly impacted by the current and future development in artificial intelligence<sup>7</sup>. Universities and educators have to be aware of a threat that AI poses, especially to white-collar professions, and prepare their students for the new reality (e.g. for jobs that have not yet be created). Education is instrumental in embracing change to successfully equip workers with the required qualities for the demands of the industrial revolutions. The AI disruption of existing jobs is undeniably a big challenge, but an ongoing transition of traditional jobs seems to be equally important.

There are two main interconnected consequences of the existence of AI systems on the legal market: changes of traditional legal activities and modification of needed legal competencies. Both of them should have an impact on the legal education.

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<sup>4</sup> See more: <https://www.lawgeex.com/resources/aivslawyer/>, access: 2019-10-31.

<sup>5</sup> LEARY, The Verdict Is In: AI Outperforms Human Lawyers in Reviewing Legal Documents, <https://futurism.com/ai-contracts-lawyers-lawgeex>, access: 2019-10-31.

<sup>6</sup> Official information can be found on the website: <https://www.case-crunch.com/>, access: 2019-10-31.

<sup>7</sup> AOUN, Robot-proof: higher education in the age of artificial intelligence, Cambridge, Massachusetts, MIT Press, 2017.

## 2.1. New activities, new jobs?

The AI-driven legal sphere will require from the lawyers to possess new legal competencies<sup>8</sup>. Therefore, in the course of legal education, high emphasis should be placed on their development or improvement. The law students have to be taught how the AI systems work, how they process data, what is the difference between rule-based and machine learning models, how the AI models can be used in their daily practice, what are their limitations or what are the risks connected with the development of AI legal tools (especially those based on ML algorithms).

The new, technological work ecosystem of a lawyer, based on artificial intelligence, will change the general competencies of the future lawyer: from A to Z independent case-handling to the verification of the work results of the legal AI systems. The automation of simple and repeatable legal activities will remove the traditional stepping stone on the lawyer career path of «cutting your teeth» by spending hours on tedious assignments like reviewing discovery, conducting legal research, and drafting legal documents<sup>9</sup>. On the one hand, it is the cause for optimism. The AI systems can accomplish the repetitive, boring parts of legal jobs. That enables lawyers to work on more complex and creative problems. But on the other hand, somebody should ask a question: what young lawyers have to offer while AI automates their typical activities? This rhetorical question implicates more inquiries: What the new generation of lawyers should be taught to do during the legal education? What skills are now needed on the legal market?

A young lawyer should prepare firstly by becoming familiar with technology and how it works, secondly by developing a nimble approach to new tools, embracing the greater advisory and supervisory role, and finally by growing with the new legal culture. His legal education should correspond with these requirements.

Not so long ago it was said that in order to survive in the legal profession, one should have specialization in a particular area of law. It ended in *hyperspecialization*. However, such strategy may turn out insufficient in the world of the legal AI. When looking for a new niche on the market, it seems more reasonable to specialize in concrete activities, rather than particular areas of law. The new specialization approach will manifest itself by the fact that some lawyers will deal mainly with the control over AI systems, others will program smart contracts, others will deal with resource management or building personal relations with the clients. Each task requires different competencies and may potentially result in new legal professions. Therefore, greater effort in terms of shaping future legal engineers, smart contract programmers or specialists for the lawyer-client relations should be undertaken by educational policy-makers. It would be naive to assume that the traditional legal paths will remain unchanged. And even if there will be a place on the market for traditional lawyers, this place will be available to far fewer than now.

## 2.2. New legal competencies

In the near future there will be no question «Are you a good professional?» but rather «Are you good in cooperation with the AI systems?», «Does your competencies reflect or complement the abilities of the AI system?» It would be desirable if today's lawyers did not even consider answering question: «Do you compete with the AI?». In order to survive new legal competencies need to be developed. Three of them will be discussed: control, cooperation and «humanity».

<sup>8</sup> WATKINS/SIMON, AI and the Young Attorney: What to Prepare for and How to Prepare, *Landslide* 2019, Vol. 11, No. 3. Also available online: [https://www.americanbar.org/groups/intellectual\\_property\\_law/publications/landslide/2018-19/january-february/ai-young-attorney/](https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2018-19/january-february/ai-young-attorney/), access: 2019-10-31.

<sup>9</sup> *IBIDEM*.

### 2.2.1. Control

It is a bit of a cliché, but worthy of underlining: in order to take any kind of responsibility, one should be able to have impact on a given circumstance or phenomenon. The element of control over AI systems has a chance to become a key factor in legal jobs (distinguishing responsible legal services offered by lawyers from those rendered by technological apps). Such control is essential in the era of black-box AI/ML and *algorithmic non-interpretability*. People at senior positions in law firms are aware of how crucial (and desired on the market) is a competence of adequate, fast and effective control of work of those involved in a given case. In the near future, it will be necessary that every lawyer will be equipped with the ability to supervise the effects of AI systems. This new competence should be considered as extremely important, taking into account the persuasiveness of AI systems and its impact on human decisions<sup>10</sup>.

### 2.2.2. Cooperation

As it was mentioned before, young lawyers should be aware of AI way of working, they should be taught what are the limitations of particular AI models or what are the risks connected with these weaknesses. AI may perform legal tasks, but it is the lawyer who need to understand these systems abilities (advantages and drawbacks). Only this competence allows to combine the effectiveness of AI models with the lawyer's legal knowledge and invaluable and irreplaceable human skills. Mixing human and AI's factor (automated processes with human control) has a chance to be a good adaptation to the new legal landscape. Legal education must thus have regard to the fact that lawyers and AI systems should become equal partners in doing legal job. Thank to it the well-prepared young lawyer will be an expert at relating human goals to machine tasks<sup>11</sup>.

### 2.2.3. Humanity

Law students typically are trained tiresomely. Their legal education requires a lot of studying, hours spent on learning by heart tones of books and legal acts<sup>12</sup>. As a result, they are taught unnecessary information that will be obsolete soon. In the era of legal AI systems most of the «bookish knowledge» will not be required. Thus, the education of next generations of lawyers should be focused on creating soft skills and the improvement of the human element of legal practice rather than proficiency in legal codes. The future lawyer should be able to improve AI generated result with responsible, emphatic and ethical relationship with the client, based on human relations and mutual trust. Stronger emphasis on creating loyal client-lawyer relation seems to be crucial, as technological companies are usually unable to offer this kind of services. However, in order for such combined future legal services to work properly, it is necessary to start preparing lawyers to the new reality, in which they will have to function.

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<sup>10</sup> DIJKSTRA/LIEBRAND/TIMMINGA, Persuasiveness of expert systems, *Behaviour & Information Technology*, 1998, 17:3, pp. 155 – 163; DIJKSTRA, User agreement with incorrect expert system advice, *Behaviour & Information Technology*, 18:6, pp. 399 – 411; DIJKSTRA, Legal Knowledge-based Systems: The Blind leading the Sheep?, *International Review of Law, Computers & Technology*, 2001, Vol. 15, No. 2, pp. 119 – 128; LOGG/MINSON/MOORE, Algorithm appreciation: People prefer algorithmic to human judgment, *Organizational Behaviour and Human Decision Processes* 151, 2019, pp. 90 – 103.

<sup>11</sup> WATKINS/SIMON, AI and the Young Attorney: What to Prepare for and How to Prepare, *Landslide* 2019, Vol. 11, No. 3. Also available online: [https://www.americanbar.org/groups/intellectual\\_property\\_law/publications/landslide/2018-19/january-february/ai-young-attorney/](https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2018-19/january-february/ai-young-attorney/), access: 2019-10-31.

<sup>12</sup> Law studies are assessed as too theoretical, overloaded with learning by heart and with inadequate exams – see: the empirical research on legal education conducted on law students at the University of Wrocław in Poland (CZARNOŃA/PAŹDZIÓRA/STAMBULSKI, Tiresome necessity: Reasons for starting the law studies in WPAE UWŕ and their assessment, Wrocław 2017, <https://www.bibliotekacyfrowa.pl/dlibra/publication/edition/80007?id=80007>, access: 2019-10-31).

### 3. AI as educational tool

The second aspect of the relation between AI & Law and the legal education is the usage of AI as an educational tool. The model of higher legal education should not just consult the changing legal market, but also changing teaching tools. The research on artificial intelligence in education (AIEd) has been carried out since the beginning of the 1980s. Initially, educational applications of AI have mainly focused on the knowledge-based approach, now commonly known as GOFAI («Good Old-Fashioned Artificial Intelligence»), and were used in narrow domains such as mathematics or physics<sup>13</sup>. Nowadays, intelligent tutoring systems based on ML models are more and more popular. Even the biggest players on the technological market are interested in creating of AI-based educational solutions. As an example may serve IBM which introduced «Watson Classroom» and promised cognitive solutions that help educators gain insights into the learning styles, preferences, and aptitudes of each student, «bringing personalized learning to a whole new level»<sup>14</sup>.

The famous IBM Watson is also known for another impressive example of the use of AI in the (higher) education. In 2015 at the Georgia Institute of Technology an experiment with AI teaching assistant called Jill Watson was conducted. During one semester all students' questions<sup>15</sup> were answered by the AI system based on the IBM Watson platform with 97% certainty of providing an accurate response<sup>16</sup>. Jill acted as a human and managed to fool almost every student. She could answer most student questions with stunning speed, earning her a reputation as a most effective teachers assistant. In fact, no more than one or two students in the 300+ sized class had any suspicion of Jill's true nature. Rather, most students were impressed by the fast responses and friendly reminders<sup>17</sup>.

It may seem that in the legal domain the situation is much more complicated, but, surprisingly, there were attempts to devise legal AI-based tutorial programs in legal education. As an example may serve the research carried out by KEVIN D. ASHLEY and VINCENT ALEVEN who almost thirty (!) years ago introduced an intelligent, case-based tutorial program for teaching law students to make arguments with cases (one of the most important lawyering skills in common law system)<sup>18</sup>. Under the program's guidance, students argued with the program, the program argued back, and commented on the student's argument, helping to learn to select and apply cases more efficiently and to make more effective arguments. Taking the above into account, it can be concluded that with the development of current AI models, also the educational use of them should be broadened.

Universities and law faculties are generally not known for being particularly flexible or dynamic. Thus, adopting the AI technology to the legal education can be potentially challenging. But it must be remembered that in the domain of educational policy, it is important to understand AI in the broader context of the future of learning. Legal higher education must therefore abandon an isolating attitude, shifting from traditional training to AI educational solutions. In this case, thanks a perennial quest to adapt to AI, future lawyers will be able to smoothly follow their own career paths.

<sup>13</sup> TUOMI, *The Impact of Artificial Intelligence on Learning, Teaching, and Education: Policies for the future*, Luxembourg: Publications Office of the European Union, 2018, p. 27, [https://publications.jrc.ec.europa.eu/repository/bitstream/JRC113226/jrc113226\\_jrcb4\\_the\\_impact\\_of\\_artificial\\_intelligence\\_on\\_learning\\_final\\_2.pdf](https://publications.jrc.ec.europa.eu/repository/bitstream/JRC113226/jrc113226_jrcb4_the_impact_of_artificial_intelligence_on_learning_final_2.pdf), access: 2019-10-31.

<sup>14</sup> <https://www.ibm.com/watson/education>, access: 2019-10-31.

<sup>15</sup> Over 300 students of the class on AI.

<sup>16</sup> GOEL, *A teaching assistant named JILL WATSON*, TEDxTalks, San Francisco, <https://www.youtube.com/watch?v=WbCguICyfTA>, access: 2019-10-31.

<sup>17</sup> <https://medium.com/hubert-ai/ai-in-education-teaching-assistants-78647f56f22a>, access: 2019-10-31.

<sup>18</sup> ASHLEY/ALEVEN, *Toward an Intelligent Tutoring System for Teaching Law Students to Argue with Cases*, ICAIL '91 Proceedings of the 3<sup>rd</sup> International Conference on Artificial Intelligence and Law, pp. 42 – 52.

## 4. Summary

Although AI threatens *status quo* in legal education and practice, it probably does not mean the end of the existing, large legal industry and legal higher education. But it also does not mean that both of them should remain unchanged. Exactly the opposite: they must be transformed as soon as possible. It is possible that the total number of lawyers will decrease because of automation processes, but a large set of lawyers will remain and their daily work mainly will be to supervise automated tasks. The key element of the AI-driven educational evolution will be to enable the majority of these lawyers to adapt to the new reality (including by embracing the drawbacks of current AI). The new wave of AI-savvy lawyers should enter the workforce. Otherwise, nobody can promise that AI will not eventually put lawyers out of business.

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