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Everything that artificial intelligence can NOT do

"A judge, like any other mortal, when he thinks, his whole personality is always involved, and this brings colour to every part of it."
– Jerome Frank[1]

Introduction – A situation map of the psychological and cognitive limitations of AI for the judiciary in 2022[2]

Artificial Intelligence (AI for short) and its potential applications in various industries has become a rather popular topic by the early 2020s. The topic is highly researched today and a lot of projects, public and market funding is flowing into this area of research and development. Artificial intelligence and "..." – you could actually insert anything else here – are of great interest to researchers and laic people alike.

In this paper, I will not attempt to give a precise definition of AI, but in summary, AI is a generic term used to describe a disruptive technology that includes, among others, machine learning, image analysis, voice description, facial recognition, virtual assistance, etc., and is essentially capable of performing human tasks.[3]

It is natural and clear that the possibilities offered by this new technology are astonishing scientists and industry alike, and everyone is waiting with bated breath to see what AI can DO.

But it is equally natural and human to fear AI at a societal level, to fear the extent to which it will change our lives, the impact it will have on, for example, the labour

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[1] Frank, Jerome: *Bíráskodás az elme ítélőszéke előtt (Válogatott írások)*. Szent István Társulat az Apostoli Szentszék Könyvkiadója, Budapest, 2006. 60–61.

[2] Thanks to Noémi Császár-Nagy for her help with this study and for the idea of the study itself.

[3] Simon, Herbert A.: Cognitive science: The newest science of the artificial. *Cognitive Science*, 4(1) (1980) 33–46. https://doi.org/10.1207/s15516709cog0401_2 (01.05.2022).

market or our human relationships. The extreme and artistic processing of this fear can be observed in many films and books that fall into the category of science fiction, such as Ex Machina, Her.

Since artificial intelligence also means that the software or machine in question has intelligence and capabilities that are similar to, or even superior to, human intelligence, the question automatically arises: how are we humans different? How are we more, how are we less? What is it that can be considered exclusively human?

Although I fully agree with the statement that the research and results that are of economic and scientific value are mainly those that deal with what artificial intelligence is capable of, I believe that it is also worth examining, especially from a human point of view, what it is not capable of, at least at the moment.

It is important to note here that this paper is written in 2022, so I can give you a picture of the situation at that point in time, given that with the rapid development of technology, it is easy for what is being said here to become outdated in a few years' time – but that is the beauty of research, that with continuous development, the old findings are overturned and replaced by new ones. At the same time, in compiling the list of properties that can be considered limitations of AI, I have sought to list those that are of truly exclusively human value and that, presumably, will not be eroded by AI developments in the future – either because they are of no economic value or because they are truly unmodifiable and unprogrammable properties.

The study relies heavily on the findings of the EMEA Partner Conference held by Right Brain Future in Vilamoura, Portugal in 2018, but is novel in that it fits into the larger concept I have been researching – the relationship between court proceedings and AI. At the conference they classified the following as human characteristics and skills: perception, speech clarity, near vision, fine manual dexterity, selective attention, problem sensitivity, oral and written expression, oral and written comprehension, inductive and deductive reasoning, creativity, category flexibility, complex problem-solving, judgment, applying expertise, active listening, management, critical thinking, ethics, handling ambiguity, operations analysis, persuasion, empathy, emotional intelligence, social perceptiveness.

Classified as machine features: coordination, precision, speed control, strength, basic speech, sound localization, speech recognition, dynamic flexibility, night and peripheral vision, reaction time, stamina, regular object manipulation, scalable processing capability, fact recall, computation, routine reading comprehension, equipment operation and repair, pattern recognition, impartiality, logic, system design, novelty detection, structured interference, data discovery and analysis.

In this study, I will focus only on the analysis of the most necessary qualities (emotional intelligence, creativity, neothenia) for legal and, in particular, judicial work.

One of my main research questions is whether it is conceivable that one day artificial intelligence-based software could replace human judges in the conduct of court proceedings. In examining this question, particular attention should be paid to the limitations of artificial intelligence.

Thus, the study will be structured as follows: I will describe what we currently know that AI cannot do compared to humans, and then I will examine the role that this feature plays or can play in the work of a judge – or, more broadly, of any lawyer. At the end of the thesis, I will attempt to map the relationship between AI developments in future court proceedings and human judges, taking into account the legal framework that we currently know.

The exclusively human characteristics presented in this study:

1. emotional intelligence
2. creativity
3. neoteny
4. reasoning, reasonability
5. social perception and social sensitivity

Emotional intelligence

Emotional intelligence, according to the best known approach, essentially consists of three abilities:

1. the perception and expression of emotions
2. the regulation of emotions
3. the use of emotions.[4,5]

Perceiving emotions is the ability to recognise emotions in people, while expressing emotions is the reverse: being able to express emotions in a way that is recognisable to others.

In comparison, a further step is the regulation of emotions, i.e. the ability to learn to control our own emotions, to choose in which situations and in front of whom to express them, and when, in which situation and in front of whom it is not appropriate to express a particular emotion.

The third stage is the use of emotions, including the ability to motivate ourselves or others, to plan with and through them, to achieve our goals. This is essentially the ability to use our emotions to influence ourselves and others.

Artificial intelligence as we know it today has only a limited capacity to exercise the skills and abilities that we understand under the umbrella term of emotional intelligence. Although emotion recognition can be taught, for example through image recognition, emotion detection is a much more complex task and is or could be used in the design of humanoid robots in general.

For example, Sophia, one of today's best-known humanoid robots, developed by Harson Robotics using deep learning, which was granted citizenship in Saudi Arabia in

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[4] Salovey, Peter – Mayer, John D.: Emotional Intelligence. *Imagination, Cognition and Personality*, Vol. 9 Issue 3 (1990) 185–211. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG (01.05.2022).

[5] Caruso, David. R. – Mayer, John D. – Salovey, Peter: Relation of an ability measure of emotional intelligence to personality. *Journal of personality assessment,* 79(2) (2002) 306–320.

2017, can recognise[6] more than 60 emotions and express them with its built-in "facial muscles", according to its developers and its own description.[7] Sophia, for example, can smile and thus show joy. Future application areas would include healthcare, customer service and education, but it is important to know that the full spectrum of emotions has yet to be mapped and programmed, and some research suggests that Sophia's effect on humans is rather negative, which is a major drawback.[8]

The use of emotion regulation and emotion at the next level of artificial intelligence is a very remote and limited possibility, even compared to emotion recognition and expression.

However, it would be a mistake to think that the teaching of emotions in AI is an area for negligible development. Generally speaking, recent research shows that higher emotional intelligence leads to greater success (satisfaction, better relationships, outstanding careers).[9,10] Accordingly, in order to achieve abovementioned success, active research is being carried out, for example in the health sector,[11] to develop virtual carers who have the ability to be emotionally intelligent, i.e. to recognise the emotional needs of the person they care for and to influence their recovery by expressing their own emotions, and in the hospitality sector, where the reconciliation of emotional and AI development is also a priority.[12]

A popular approach[13] is to divide AI into three groups based on the use of emotional intelligence:

1. *analytical AI:* uses cognitive intelligence and learning, mainly for making future predictions
2. *human-inspired AI:* in addition to cognitive intelligence, it now also uses emotional intelligence, recognising people's feelings and incorporating them into its operations
3. *humanized AI:* uses cognitive, emotional and social intelligence, has self-awareness

Today, we are not aware of the third type of AI, which makes full use of social intelligence and emotional intelligence. The most common type is analytical AI.

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[6] https://www.youtube.com/watch?v=YxyGwH7Ku5Y&ab_channel=GamingPlus (05.05.2022).

[7] Faraj, Zanwar et al: Facially Expressive Humanoid Robotic Face. *HardwareX,* Vol. 9 e00117 (2021).

[8] Chuah, Stephanie Hui-Wen – Yu, Joanne: The future of service: The power of emotion in human-robot interaction, *Journal of Retailing and Consumer Services,* Vol. 61 (2021).

[9] Amdurer, Emily et al: Long term impact of emotional, social and cognitive intelligence competencies and GMAT on career and life satisfaction and career success. *Frontiers in Psychology,* 5 (2014) 1447.

[10] Austin, Elizabeth J. – Saklofske, Donald H. – Egan, Vincent: Personality, well-being and health correlates of trait emotional intelligence. *Personality and Individual Differences,* 38(3) (2005) 547–558.

[11] Brown, Julia E. H. – Halpern, Jodi: AI chatbots cannot replace human interactions in the pursuit of more inclusive mental healthcare. *SSM Mental Health,* Vol. 1 (2021).

[12] Prentice, Catherine – Lopez, Sergio Dominique – Wang, Xueqong: Emotional intelligence or artificial intelligence – an employee perpective. *Journal of Hospitality Markering and Management,* Vol. 29 (2020).

[13] Kaplan, Andreas – Haenlein, Michael: Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons,* 62 (2019) 15–25.

However, the use of human-inspired AI is becoming increasingly popular: for example, Walmart, a major US chain, has recently used facial (and emotional) recognition to identify how unhappy customers are with the number of people waiting in line,[14] and then used this information to decide whether to open a new checkout, or to identify shoplifting using facial recognition.[15]

In a recent and domestic example, a Hungarian bank used artificial intelligence-based software to recognise the emotional state of its customers, and then used speech recognition and speech evaluation system to call back its customers as follows. The bank used the results of the analysis provided by the system to determine which dissatisfied customers should be recalled, including by analysing the emotional state of the speaker. The speech signal processing based on artificial intelligence was used to automatically analyse the keywords in the list and the emotional/mood of the speaker. The results of the detected keywords and emotions were stored by the bank associated with the caller. The voice analysing software ranked the calls based on the above, which was in effect a recommendation as to which caller should be called back as a priority. This data was also stored in the voice analysis software linked to the call. By reviewing the data, the bank's senior staff decided which customers to call back.[16]

The National Office for Data Protection and Freedom of Information has "rewarded" the bank's innovation using artificial intelligence based on emotional intelligence with a record fine of HUF 250 million, which is particularly significant as it is the first fine in Hungary for the unlawful use of artificial intelligence.

In the case of the abovementioned examples, we can already speak of classical emotional intelligence – artificial intelligence that recognises emotions – but not yet of artificial intelligence at the second or third levels – human-inspired and humanized AI.

Moving on to the world of law and the courtroom, we can see that emotional intelligence is also essential for the exercise of the judiciary: in the course of their work, a judge has to settle disputes between persons and in doing so, they must recognise the aims, motivations and sensitivities of the parties and take all these into account when making the final decision. The role of the judge is extremely complex: a judge is essentially active, interacts with the parties through the proceedings, seeking to reach a settlement, sometimes mediating, conducting and maintaining order, providing general and specific information, conducting professional discussions with other judges and other parties involved in the administration of justice, etc.[17]

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[14] https://us.fashionnetwork.com/news/walmart-uses-facial-recognition-technology-to-spot-disgruntled-customers,852351.html (2022. 05. 05.)

[15] https://fortune.com/2015/11/09/wal-mart-facial-recognition/ (05.05.2022).

[16] Report of 2021 of Hungary National Authority for Data Protection and Freedom of Information. NAIH-7350/2021., NAIH-85/2022 döntések. *NAIH beszámoló a 2021. évi tevékenységről* (05.05.2022).

[17] Nagy, Adrienn: A mesterséges intelligencia és digitalizáció jelentősége és lehetséges hasznosítási területei az igazságszolgáltatásban. Bevezető gondolatok a mesterséges intelligencia igazságszolgáltatásban történő alkalmazhatóságáról. *Infokommunikáció és jog,* 2 (2020) 75. E-különszám.

In addition, empathy is a key attribute of emotional intelligence in judicial work, enabling judges to understand how their decisions may affect the feelings and actions of others and to take into account the views of the parties when making decisions.

In English, judicial responsiveness is the term used in the literature to describe the emotional intelligence that a judge needs in his or her judgement: to make decisions that affect human lives in a way that is intuitive, empathetic and compassionate, always bearing in mind the legal framework, and which also requires creativity (see below).[18]

It can therefore be concluded that artificial intelligence in its current form, which is only capable of recognising and identifying emotions, does not allow the development of software that can fully replace human judges with a broad spectrum of emotional intelligence, who, in addition to recognising emotions, must pay increased attention to the regulation of emotions and the use of emotions in the exercise of their work.[19]

In parallel with technological progress, there are increasingly strong voices arguing that lawyers should work on developing their emotional intelligence rather than their cognitive skills and knowledge in order to perform their tasks effectively, since cognitive tasks such as the immediate search for the applicable law or case law can be effectively performed by artificial intelligence, but not the satisfaction of the client's emotional needs.[20,21]

It can be concluded from the above that the resolution of legal cases cannot be automatic, as it is rare that there is only one good answer to a question. The main goal to find the best possible answer and personalised solution to the legal question or dispute of the parties concerned, it is necessary to fully understand their situation, motivations and goals, for which a high level of emotional intelligence is essential.

Furthermore, it is of paramount importance for judicial proceedings that clients feel heard and understood by the court – beyond, of course, the requirements of a fair trial – because it has been shown that they are more likely to accept decisions and consequences that affect them if they are involved in a process that they personally consider to be fair. [22]

Creativity

The second trait presented exclusively human is creativity. Creativity refers to the capacity for original, inventive, constructive or divergent thinking that enables an individual

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[18] Sourdin, Tania – Zariski, Archie: *The Responsive Judge – International Perpectiveness*. Springer, 2018.

[19] Barna, Lili – Juhász, Dorottya – Márok, Soma: Milyen a jó bíró? *Miskolci Jogi Szemle,* 13. évf. 1. sz. (2018).

[20] Carrel, Alyson: Legal Intelligence through Artificial Intelligence Requires Emotional Intelligence: A New Competency Model for the 21st Century Legal Professional. *Georgia State University Law Review,* 35 (2019) 1153.

[21] Beck, Megan – Libert, Barry: Professional Transitions – The Rise of AI Makes Emotional Intelligence More Important. *Harvard Business Review,* (2017). https://hbr.org/2017/02/the-rise-of-ai-makes-emotional-intelligence-more-important (05.05.2022).

[22] Thibaut, John – Walker, Laurence: *Procedural justice: a psychological analysis*. Lawrence Erlbaum Associates, 1975. 150.

to generate new ideas, new concepts, new associations, new conclusions, and thus to contribute to the creation of new solutions.

Creativity can therefore be broken down into elements:[23]

1. novelty
2. combination
3. expression
4. value

It is a skill that is difficult to define and develop even by humans, and programming it is perhaps even more difficult. IBM has described the teaching of AI to be creative as a development on the scale of the moon landing.[24]

Creativity as a skill is particularly important in the arts – there is an active debate at the moment about whether AI can be an author, for example in the case of software developed by machine learning. So far, Australia is the first country whose federal court has decided to recognise AI as an inventor (quasi-author),[25] but this has not led to a major breakthrough in the legal regulation of AI internationally.

Overall, AI 'works' are currently in their infancy, as can be seen from the rather amusing sequel to 'Harry Potter and What Looked Like a Pile of Ashes',[26] which was written by AI rather than having artistic merit.

However, it should be pointed out that there have been advances in the creativity of AI in a number of areas. Combination, as an element of creativity, is already a strong capability of AI today. This means that it is capable of creating random and therefore new combinations – for example, writing haiku[27] or writing a film[28] – but not yet fully capable of representing value, although it should be noted that the artistic value of something is a subjective category. In his study, Deniz E. Kurt concludes that in order to answer the question of whether AI can be considered creative and therefore artistic, a paradigm shift in our general attitude towards art and creativity is needed.[29] It is interesting to note that this paradigm shift is also highlighted by Krisztina Karsai as a key element in understanding the relationship between AI and (criminal) justice.[30]

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[23] Boden, Margaret A.: *The Creative Mind: Myths and Mechanisms*. Second Publication, Psychology Press, 2004.

[24] https://www.ibm.com/watson/advantage-reports/future-of-artificial-intelligence/ai-creativity.html (05.05.2022).

[25] Federal Court of Australia, Thaler v Commissioner of Patents, 2021 FCA 879 https://www.judgments.fedcourt.gov.au/judgments/Judgments/fca/single/2021/2021fca0879 (05.05.2022).

[26] https://botnik.org/content/harry-potter.html (05.05.2022).

[27] https://opensea.io/assets/ai-haiku-poems (05.05.2022).

[28] https://www.youtube.com/watch?v=LY7x2Ihqjmc&ab_channel=ArsTechnica (05.05.2022).

[29] Kurt, D. E.: *Artistic Creativity in Artificial Intelligence*. Thesis of Radboud University, 2018.

[30] Karsai, Krisztina: *Algoritmusok és büntető igazságszolgáltatás*. In: Török, Bernát – Ződi, Zsolt: A mesterséges intelligencia szabályozási kihívásai. Ludovika Egyetemi Kiadó, Budapest, 2021. 357–386.

What can be concluded from the above is that creativity and sensitivity in the arts are based on human indoctrination to such an extent that they are very difficult to learn and thus to teach. It is of course possible to show certain melodies, images, texts to software based on artificial intelligence by categorising artists and non-artists, but the categorisation itself is highly questionable because of its subjectivity. It is still a further, and at the moment very far-reaching, step to teach artificial intelligence to create something new and artistically valuable on its own.

To return again to the question at the heart of our topic, creativity is an essential element of legal thinking, i.e. the ability to find multiple solutions to a situation.

In this context, creativity arguably plays a key role in judicial work,[31] since this is where the application of the law itself takes place, which in fact involves a high level of active (textual) interpretation and abstraction. All this can be established without going into the extent of the interpretative freedom of judges in certain legal systems, its permissibility, or the differences in interpretation and difficulties that usually arise between legislation and the application of the law.

From the point of view of the work of judges, it is not important that AI develops a completely new and valuable legal solution for a given case, but it is essential that it always develops its decision with an "open mind", taking into account the characteristics and parties involved in the case, and not just using an automatic panel of inputted facts for each case or type of case.

This ability is of particular importance, for example, in the exercise of equity, where the judge is free, as it were, to make their own decision according to the circumstances and discretion given by the law. Although we can observe a tendency towards a narrowing of the scope of equity (especially in the Hungarian legal system for example), this does not mean that we are talking about an area that has been completely lost – its importance in judicial work, regardless of its extent and its expression in law, is outstanding, and therefore, until artificial intelligence is able to exercise it properly, it cannot be fully automated.

Neoteny

Perhaps the most powerful human trait not currently available to AI-based software is neoteny, also known as the ability to progressively rejuvenate or juvenisation.

By this term we mean psychologically the ability of an adult of a given species to retain some of the characteristics of younger individuals of that species, or in other words the ability of a species, despite having reached and surpassed a certain level of development, to return to its previous level of development if it is advantageous to it in the situation.

Neoteny[32] can be most simply illustrated by an example: in children, once they have reached potty training, when a new child – not yet potty trained – arrives in the family,

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[31] Owens, B. Robert – Merriman, Ben: Habit and creativity in judges' definition and framing of legal questions. *Theory and Society,* 50 (2021) 741–767.

[32] Brin, David: How might AI Come About? – Different Approaches and Their Implications for Life in the Universe. *Artificial Axiom,* Vol. 2 Issue 1 (2016) 117.

the older child suddenly "regresses" and needs to be diapered again. The reason is that the older child sees that their parents are spending more time with the new arrival than with them, also because the younger one is being diapered, and so, in order to get their parents' attention again, they decide to return to the previous level of development, again only diapering, and so their parents spend more time with them again, which is evolutionarily advantageous for them, even though in terms of actual development they are actually regressing.

And when does a judge need neoteny?

As I have already mentioned in the emotional intelligence section of this paper, it is very important for a judge, in the exercise of their judicial activity, to be able to empathise with their clients, i.e. to be able to put themselves in their shoes.

In addition to empathy, a further step must be taken when, in a given case, a child is involved in the court proceedings and the judge has to interpret their presentation or testimony: they must go back to the child's own thinking in order to understand them, since in a child reality and imagination are not yet clearly separated, and their testimony is a mixture of fairy-tale impressions and truth, which requires an understanding of the child's being and thinking.

Artificial intelligence-based software[33] currently used in the justice system selects the relevant information and facts from the information it obtains, whether extracted from written documents or oral presentations, and then makes a decision or a recommendation based on that information.

However, without the capacity for neoteny, they cannot filter information on the basis of what is said by whom, for example a child, nor can they interpret it in such a way that the child's testimony is consistent with reality.

Explainability and justification

A well-known problem in the application and control of artificial intelligence-based systems is the frequent lack of explainability, or in other words the "blackbox" phenomenon, the essence of which Pál Vadász summarised as follows: "the operation of the nowadays widespread algorithms operating multilayer neural networks is very difficult to understand, and only the input and output can be easily controlled. The algorithm handles millions of input points, which are weighted by the model until the expected output is literally produced, because the process is self-directing".[34] So essentially, in automated decision-making, artificial intelligence repeatedly makes decisions where it is not entirely transparent – even to the software developers themselves – exactly how the system made that decision.

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[33] Kálmán, Kinga – Kiss, Laura Olga – Szentgáli-Tóth, Boldizsár: *Mesterséges intelligencia alapú szoftverek a világ bíróságain: gyakorlati tapasztalatok, perspektívák és kihívások*. In: Digitális Jogalkalmazás. 2022. (megjelenés alatt).

[34] Vadász, Pál: *Elkerülhető, hogy a robotok diszkrimináljanak bennünket. A mesterséges intelligencia szabályozási kihívásai*. In: Török, Bernát – Ződi, Zsolt: A mesterséges intelligencia szabályozási kihívásai. Ludovika Egyetemi Kiadó, Budapest, 2021. 89–110.

One of the most ambitious goals of computer scientists today is the development of explainable AI (or XAI), which operates in such a transparent way that the human user trusts the output and outcome offered by the system. This is particularly emphasized in AI-based decision making and thus also in our topic, decisions in judicial proceedings, where adequate reasoning is an essential requirement.

The most obvious and primary function of a judicial reasoning is to convincingly demonstrate to the relevant audience (parties, appellate court or even the wider public) the professional soundness of the judgment and its freedom from any arbitrariness.[35]

In its case-law, the European Court of Human Rights has emphasised, inter alia, the following points in relation to the proper reasoning of judicial decisions: courts must justify their actions by the reasons given for their decisions,[36] the reasons must be such as to enable the parties to effectively appeal against the decision,[37] and the courts must deal individually and expressly with submissions that are of decisive importance for the proceedings.[38]

From the above, it can be concluded that in judicial decision-making, if AI-based software is involved in the decision, it must be ensured that this AI is XAI, i.e. that its operation is explainable and understandable to the parties.

Of course, this is not a requirement in itself, and we must not forget that the aim of guaranteeing the right to a fair trial is not a per se requirement, but serves the purpose of resolving disputes in a calming manner, so it is conceivable that in the future, because of the advantages offered by artificial intelligence (e.g. efficiency), our legal system will also break away from the current strict interpretation of this requirement and, at the cost of a paradigm shift, will interpret it more flexibly. However, it seems certain that the proper reasoning of judicial decisions will require the development of an AI-based support system, which at least has the ability to track and show what elements it has considered relevant and how it has weighed them in its decision-making, so that the decision can be interpreted and, where appropriate, challenged by the parties to the proceedings.

At the moment, there are still very few AI-based software systems in 'live' use in the justice systems that can act as autonomous decision-makers, but it is already apparent that the lack of explanatory power is causing problems.

One example of this is COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) system in the US, which is designed to assist judges in the correctional field in deciding whether or not a particular prisoner is worthy of parole.

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[35] Bencze, Mátyás – Kovács, Ágnes: „Nem foghat helyt" – Az Alkotmánybíróság az indokolási kötelezettség teljesítéséről. *MTA Law Working Papers,* 10 (2018).

[36] European Court of Human Right, Souminen vs. Finland. https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-61178%22]} (05.05.2022).

[37] European Court of Human Right, Hirvisaari vs. Finland. https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-59682%22]} (05.05.2022).

[38] European Court of Human Right, Ruiz Torija vs. Spain and Hiro Balani vs. Spain. https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-57909%22]} and https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-57910%22]} (05.05.2022).

Essentially, it is a risk analysis software tool that decides on the risk of recidivism of a person based on a set of criteria such as age, gender, criminal record or criminal history, education, occupation, labour market situation, livelihood, assets, housing, family circumstances, harmful addictions. The tendency of COMPAS to discriminate against black people was quickly exposed and the system and the authorities[39] applying it were sharply criticised,[40] inter alia because the discriminated persons did not understand why exactly the judge applying COMPAS had concluded that they did not deserve to be released on parole. This problem could also be solved by the use of an artificial intelligence-based system that is more transparent than COMPAS.

At the moment, the lack of explanatory algorithmic transparency[41] and the discriminatory nature of AI is one of the most serious arguments against the introduction of AI in judicial decision-making, and although judgments made by human judges are not always free from vagueness and inconsistency, it can be said that, at a societal level, there is currently greater confidence in such 'traditional' judgments, i.e. those made by humans, to ensure legality, rather than judgments made by a system whose operation and the decision it makes are often not entirely clear to its developers.[42] This is evidenced by surveys showing that people are much less forgiving of an error made by an automated decision making (ADM) system than of an error resulting from human error, even if a given system is overall more accurate and performs better than a human.[43] This phenomenon is called algorithm aversion, and it is a phenomenon that must be taken into account when considering the introduction of AI as a decision maker in its own right.

Social sensitivity and social perception

Another trait highlighted by Right Brain Future and labelled as exclusively human was social perceptiveness, which also fits into the broader category of social sensitivity.

Social perceptiveness is the ability of an individual to recognise the needs, goals and feelings of others,[44] i.e. qualities that cannot be observed directly from the outside. Social or societal sensitivity goes beyond this and involves the ability of the individual to

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[39] Yong, Ed: A Popular Algorithm Is No Better at Predicting Crimes Than Random People. *The Atlantic,* 1 (2018) https://www.theatlantic.com/technology/archive/2018/01/equivant-compas-algorithm/550646/ (05.05.2022).

[40] Larson, Jeff et al: How we Analyzed the COMPAS Recidivism Algorithm. *Pro Publica*, 2016. https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm (05.05.2022).

[41] Rodrigues, Rowena: Legal and human rights issues of AI: Gaps, challenges and vulerabilities. *Journal of Responsible Technology,* Vol 4 (2020).

[42] Dietvorst, B. J. – Simmons, J. P. – Massey, C.: Algorithm aversion: people erroneously avoid algorithms after seeing them err. *Journal of Experimental Psychology: General,* 144 (2016) 114–126.

[43] Araujo, Theo et al: In AI we trust? Perceptions about automated decision-making by artificial intelligence. *AI and Society,* 35 (2020) 611–623.

[44] Gilbert, Janelle A. – Kottke, Janet L.: *Developing a Measure of Social Perceptiveness*. Annual Conference of the Association for Psychological Science. May 24, 2009, San Francisco https://www.researchgate.net/publication/255649787_Developing_a_Measure_of_Social_Perceptiveness (05.05.2022).

identify, perceive, recognise and contextualise phenomena in the community, in social interactions.

Social sensitivity or social perception is accompanied by a number of additional social skills, such as emotional intelligence or empathy, as discussed in more detail above, which people acquire during their development mostly through their ability to empathise with the situation of others because they have experienced the situation or similar situation or can imagine how it might feel for others.

Although the relationship between artificial intelligence and social perception and social sensitivity is still an area of research, the results to date, or lack thereof, suggest that there is still work to be done to design software that has at least human-like capabilities in this area.

At the same time, artificial intelligence may benefit from the fact that it is forbidden to prejudge the judgement of a court, i.e. to express a definite opinion before the judgement is given which could lead to an inference as to the final judgment of the case. Of course, because of their social perception and social sensitivity, a human judge will have some perception of the parties and the outcome of the case at an early stage, but it is of the utmost importance for the right to a fair trial that he maintains their impartiality throughout the proceedings. From the point of view of objectivity, an AI-based software is in a better position because of its lack of emotional and social skills, as explained above.

However, despite this undeniable advantage, it can be said that the above qualities of social perception and social sensitivity are, and are likely to remain, an important element of judicial work, as highlighted in a study on the qualities of a 'good judge': 'the judge cannot remain in an ivory tower, they must be aware of the fundamental social context and the fundamental problems of society,[45] particularly because he takes decisions that affect the members of society individually and collectively, and he must be aware of the consequences of those decisions. In addition to social skills, the literature[46, 47] highlights sensitivity, a sense of humour, a good knowledge of human nature and a mature personality as essential – human – qualities for judging people, qualities which, at present, can only be associated with people.

Summary

Our legal system and our society are currently based on a justice system run by human judges, in which judges with these qualities – emotional intelligence, empathy, creativity, neoteny, transparent reasoning, social perception and social sensitivity – are indispensable. Artificial intelligence in 2022 will not have these qualities at all or not to the required extent, which is why fully automated decision-making, artificial intelligence as an autonomous decision-maker in judicial proceedings – in full compliance with the rights of due process as currently understood – is highly unthinkable in the near future of Europe.

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[45] Barna–Juhász–Márok, 2018.

[46] Taft, R.: The ability to judge people. *Psychological Bulletin* 52(1) (1955) 1–23.

[47] Letzring, Tera D.: The good judge of personality: Characteristics, behaviors, and observer accuracy. *Journal of Research in Personality,* 42/4 (2008) 914–932.

What can be predicted is that, if the legal guarantees we know and have developed are to continue to be enforced with the same emphasis and unchanged, artificial intelligence-based support systems – of which there are indisputable and abundant – will be the only way to achieve this, not discussed in this study, will be increasingly widely used in justice systems. However, the human judge, as an actor with exclusively human qualities, will continue to be an active participant and an indispensable control of judicial proceedings.

Conclusion

It is becoming more and more well known what artificial intelligence is good for, in how many areas, including the field of law, can make our lives easier. The aim of the research and the lecture to be held as a result of it is based on thinking backwards and exploring what artificial intelligence is not capable of according to the current state of science. It explores the topic of how artificial intelligence could be used in court proceedings.

The research is mainly based on the examination of psychological-cognitive abilities, and the results highlight that artificial intelligence does not possess the following exclusively human traits: emotional intelligence, empathy, creativity, neoteny, transparent reasoning, social perception and social sensitivity.