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Analyzing the justification for using generative AI technology to generate judgments based on the virtue jurisprudence theory

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ABSTRACT.
This paper responds to the question of whether judgements generated by judges using ChatGPT can be directly adopted. It posits that it is unjust for judges to rely on and directly adopt ChatGPT-generated judgements based on virtue jurisprudence theory. This paper innovatively applies case-based empirical analysis and is the first to use virtue jurisprudence approach to analyse the question and support its argument. The first section reveals the use of generative AI-based tools in judicial practice and the existence of erroneous judgements generated by ChatGPT through empirical research. The second section contends that generative AI, while mimicking virtuous behaviour, cannot produce justified beliefs according to virtue jurisprudence theory. Moreover, using AI as a decision-making entity could undermine the protection of human rights and interests. The paper concludes by suggesting normative and technical approaches for how judges should use generative AI-based tools to develop their virtues.

1. Introduction

1.1. The introduction of AI-generated judgment

The modern era of artificial intelligence (AI) has recently seen the evolution of generative AI. AI-generated judgements, where judges use generative AI technology to make decisions, have even been recognised as valid judgements in some courts, meaning that AI-generated judgements are legally binding on the accused.[1] Generative AI can be used as a case-handling system to directly generate valid judgements. For instance, in China, some courts have begun to use generative AI technology to hear cases.[2] This paper presents an empirical analysis and statistical data on the number of judgements generated by the Jiangsu Provincial Intermediate People's Court's application of the 'Future

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Judge Assistant' generative AI system. AI-generated judgements in China have been recognised as valid, meaning that these judgements have legal force and binding effect, and are enforceable on the relevant parties and cases. Since 2023, a total of 1,676 judgement documents have been automatically generated, with an accuracy rate exceeding 95%. This system can quickly handle a large number of cases, provide templates and automatic generation services for legal documents, and help judges improve their work efficiency.

Indeed, generative AI can produce highly accurate results and mimic expert behaviour.[3] However, generative AI is propensity to created so-called 'hallucinations', where it creates information that sounds correct but is actually entirely false or imaginary.[4] Such misinformation, when taken up in the legal context can result in erroneous judgements that can seriously affect the interests of the defendant.[5]

1.2. The outline of virtue jurisprudence theory

In the legal decision-making process, the judge, as the legal decision-maker, is required not only to make a legal decision, but also to justify it.[6] Virtue jurisprudence can serve as a theoretical basis for requiring judges to justify their assertions.[7] The theory of virtuous jurisprudence addresses how to justify a judge's decision, positing that a legal decision is justified if, and only if, a virtuous legal decision-maker would have made it under similar circumstances.[8] For instance, judges must possess the virtue of fairness to maintain impartiality and ensure they are not influenced by personal bias or external pressure when hearing cases. Additionally, judges should embody the virtue of prudence to thoughtfully consider opposing views when reviewing evidence and to carefully assess the reliability of that evidence.[9]

This virtue-based approach emphasises that successful legal reasoning depends on the personal morality of the legal decision-maker.[10] Virtue jurisprudence theory emphasises that the morality of actions is not solely determined by the outcomes or qualities of those actions. Instead, it focuses on the virtue of the individual performing the action. This approach differentiates between assessing the moral value of the actions themselves and evaluating the moral character of the individual who acts. For instance, even if an individual performs a correct action for the wrong reasons, while the action may be correct, it is not morally commendable.[11] The theory is recognised two distinct categories of virtue: moral virtues and intellectual virtues.

The list of moral virtues includes wisdom, courage, kindness, justice, honesty, and loyalty,[12] evaluating a person's moral character rather than just their actions. This implies that an individual who commits a mistake with good intentions may still be considered virtuous.[13] Intellectual virtues encompass traits such as good memory, perception, and sound cognitive abilities – including a priori intuition and the ability to reason accurately.[14] Intellectual virtues encourage acts such as the defence of one's beliefs or research paths when there is good reason to believe that such things are correct, overcoming others' objections to ultimately expand their own knowledge.[15] Phronesis (practical wisdom) is the ability to make morally appropriate decisions in specific situations by applying ethical principles to real-life contexts.[16] It involves not just knowing what virtue demands but also understanding how to implement these virtues in varying

circumstances. This form of wisdom is essential for navigating complex moral dilemmas, guiding individuals to act virtuously according to rational thought.[17]

2. The potential issues of using generative ai-based tools

This section describes the increasing use of generative AI-based tools within the legal system. Indeed, there are many advantages to using these tools, including improving the efficiency with which judicial staff can handle cases, and making legal advice both more affordable and more accessible to a wider range of people. This paper examines cases in which judges use ChatGPT to make judgements within the legal databases LexisNexis and Google. It conducts an empirical analysis of these case studies, clarifying the central issue of this paper: the potential challenges associated with using generative AI-based tools. These challenges include whether the use of such tools can be recognised as valid and the risks of errors in ChatGPT-generated judgements, as well as whether judgements produced by ChatGPT should be directly adopted. Through empirical research, this paper highlights that these issues do exist in judicial practice, underscoring their significance for further research.

2.1. The validity of generative AI-based tools in legal practice

Early algorithms, such as linear regression, decision trees, and naive Bayes classifiers, were primarily designed for data analysis, classification, and prediction, relying on explicit rules and logic to make decisions.[18] These algorithms lack the ability to generate new content and have limited adaptability.[19] In contrast, generative AI-based tools are characterised by their high degree of autonomy and are capable of producing novel content, including text, images, and videos.[20] Built on deep learning and neural networks, generative AI automatically learns features from large datasets and understands context while handling complex inputs.[21] This technology can produce entirely new content, making it well-suited for innovative fields such as the creative industry and legal document drafting.[22]

The impact of generative AI on legal decision-making can be analysed at multiple levels, including the individual, organisational, and societal and macroeconomic levels.[23] A structured analysis of the different levels of impact can lead to a clearer understanding of generative AI's significant role in legal decision-making, enhancing the depth and breadth of the analysis. First, individuals use generative AI-based tools that can be available to lawyers for research, and to plaintiffs and defendants for understanding legal precedents and access to legal advice at low cost.[24] An example is the Claudette system, developed by the European University Institute in Florence, which could be used by plaintiffs, defendants and lawyers, and is a generative AI-based system capable of supporting legal advice by evaluating the likelihood of success or failure and the litigation risk of a client's case.[25] Second, at the organisational level, the advantages of generative AI have also been acknowledged in judicial practice, where it is anticipated to markedly improve access to justice, decrease the costs associated with legal research, and save time in litigation processes.[26] There exist myriad other generative AI-based tools that could be used for public legal services and assist judges in making legal decisions.[27] These recommendations, used by a judge, will have a substantive legal effect on the case, implicitly recognising the tool as

a valid legal decision maker. Judges can employ these tools for judicial analysis, such as for examining opinions in precedents and points of contention in oral argument materials, to achieve a more complete understanding of judicial decisions.[28] For instance, Gavelytics, a judicial analytics platform, is one such tool, that helps judges to analyse precedent data, judicial workload, and biographical information to assess whether a judge has acted preferentially towards a particular litigant.[29] Furthermore, at the societal and macroeconomic level, the widespread application of generative AI may drive structural changes in the legal industry, promoting the accessibility of legal services while also introducing regulatory challenges.[30] Algorithmic risk assessment tools can assess an offender's likelihood of recidivism and physically dangerous circumstances to advise the judge on sentencing ranges.[31] For example, in 2016, a young man in Wisconsin received a six-year prison sentence for attempting to evade a traffic officer and for unauthorised vehicle use.[32] The judge issued this sentence based on the recommendations of an algorithmic risk assessment tool called, which concluded that the man was a threat to the community.[33]

As AI technology continues to improve, generative AI-based tools are increasingly able not only to advise on opinions and sentencing, but also to generate judgements directly for judges.[34] AI technology has progressed from mimicking human actions to adopting machine learning capabilities, enabling it to learn autonomously without explicit programming.[35] ChatGPT, for instance, is a large language model (LLM) trained using reinforcement learning techniques. It analyses vast datasets to deliver novel responses to a variety of inquiries.[36] Given this technological context, such generative AI tools have begun to directly influence judicial decisions.[37] Indeed, judges can now use ChatGPT to write legal opinions, which brings a number of benefits to the administration of justice. For example, China's implementation of so-called 'smart courts' represents a significant aspect of its judicial reform in recent years.[38] These smart courts feature a fully digitalised system, where the internal computing system is capable of drafting portions of the judgement during trials.[39] This innovation increases the efficiency of legal proceedings and alleviates the workload of judges, who are increasingly burdened by high case volumes.

However, a judge's use of an AI to write a legal judgement is not exactly the same as endorsing the legal validity of that AI-generated judgement. The central question, then, concerns whether a judgement whose key elements are AI-generated judgement could be recognised as valid; that is, whether an AI system can indirectly impose legal sanctions on the defendant.

This paper reveals the existence of the aforementioned problem through a case analysis based on empirical research. It searches for relevant judgement documents and appeal records in the legal database LexisNexis and relevant reports on judgements made by ChatGPT on Google in 2023 and 2024. Furthermore, this paper conducts empirical research on cases where these documents were challenged (appeals) and instances of erroneous judgements (cases overturned after appeal) to determine which judgement documents generated by ChatGPT are considered valid and which are deemed invalid. The findings of the empirical research are summarised in the following table.

Country/Region	Description	Whether the judge directly adopts the opinions/judgment generated by ChatGPT	Whether the judgment generated by ChatGPT is challenged (appeal filed)	Are judgments generated by ChatGPT incorrect?
Pakistani	Judge Mohammad Amir Munir, who presides over the Phalia court in the Mandi Bahauddin district of Punjab province, stated that he used the AI tool to pose legal questions regarding the case, specifically whether a juvenile accused of a criminal offense could be entitled to post-arrest bail.[40]	No	No	No
United Kingdom	Judge Lord Justice Birss utilised ChatGPT to summarise legal points for a ruling, recognising both the potential benefits and risks of AI in judicial processes.[41]	Yes	No	No
United States	A federal appeals court judge utilized a concurring opinion in an insurance dispute to present what he termed an "unthinkable" proposal: that courts should begin using ChatGPT to assist in interpreting words and phrases in legal texts.[42]	Yes	No	No
Colombia	Judge Juan Manuel Padilla used ChatGPT to assist in drafting a ruling on a case involving a child's medical treatment, demonstrating the utility of AI in understanding legal texts.[43]	Yes	No	No
Brasil	The National Justice Council (CNJ), an oversight body for the courts, summoned Judge Jefferson Rodrigues to explain how he came to publish a decision filled with legal errors generated by the online AI tool ChatGPT.[44]	Yes	Yes	Yes
India	A judge at the Punjab and Haryana High Court used ChatGPT to decide on a bail application in a murder case. The judge consulted ChatGPT to understand the jurisprudence on bail in cases involving assault with cruelty, using the AI's response as a supplementary tool to his own judgment.[45]	Yes	No	No
India	Justice A. Guneshwar Sharma of the Manipur High Court used ChatGPT to assist in overturning the dismissal of a village defense force (VDF) personnel.[46]	Yes	No	No
Peru	Peruvian judge uses ChatGPT to decide how to do mathematical calculations.[47]	Yes	No	No
Mexico	**Mexican magistrate uses ChatGPT to inquire about the expression "you know who"**[48]	Yes	No	No

Among these cases, the most notable is the Colombian case. This case sparked a discussion on the validity of judgements made by ChatGPT and whether a judge can directly adopt such judgements. Judges in Colombia are utilising ChatGPT to help justify the rationale behind their rulings and to address legal queries. On 30 January 2023, Colombia set a global precedent in justice by integrating artificial intelligence viewpoints into a court decision.[49] The judgement included text generated by ChatGPT, with two out of seven pages comprising responses to four prompts from ChatGPT, accounting for roughly 29% of the document.[50] Although only about 29 per cent of the awards consisted of ChatGPT-generated text, these ChatGPT-generated responses addressed the key issues of the case and became a key component of the award instrument.

2.2. The risk of errors in AI-generated judgments

The cases in the table above concerning judges using ChatGPT to generate judgements illustrate the current application of ChatGPT in judicial adjudication. It shows that most ChatGPT-generated judgements are directly accepted by judges and not be questioned. It is important to note that some cases raise concerns about the accuracy of ChatGPT-generated judgements and have been proven to involve erroneous decisions. Therefore, based on the results of empirical research, ChatGPT poses a risk of generating incorrect judgements in judicial practice. This raises a concern addressed in this paper: if a judge directly adopts the ChatGPT-generated judgement, any erroneous output from the AI could result in a flawed judgement, ultimately leading to judicial injustice.

With regard to the question of whether the above-mentioned use of AI tools for the preparation of legal instruments can be considered valid, if their validity is acknowledged, this means that the defendant should bear the legal effects of the AI-generated judgements, or even acknowledge that judgements generated by the AI can replace judgements made by humans. The answer to this question, which would correlate the validity of AI-generated judgements with their accuracy, stems from concerns about the potential for error in AI decision-making, which could contribute to judicial cognitive biases and negate their validity in order to avoid erroneous judgements.[51] Despite ChatGPT's potential for providing accurate information, it may still produce erroneous results, potentially leading judges to make erroneous legal interpretations or apply laws incorrectly. Mata v. Avianca, Inc. is a notable case that highlights the risks associated with using generative AI in the legal field. In this case, a lawyer submitted court filings generated by ChatGPT, which contained incorrect and fictitious case citations and opinions.[52] The court emphasised the importance of attorneys thoroughly reviewing AI-generated documents to avoid such errors, underscoring the ethical obligations lawyers must ensure the accuracy and reliability of their submissions. This case serves as a cautionary tale about the potential pitfalls of integrating AI into legal practice without proper oversight. Additionally, two lawyers in New York made headlines in May 2023 when they used ChatGPT to draft a motion that included fabricated case law. This resulted in significant legal and professional repercussions for the lawyers involved, highlighting the risks of relying on AI-generated content without thorough verification.[53] Although these cases illustrate the errors that can occur when lawyers use ChatGPT, they are not currently reflected in the judgements generated by the AI.

However, these instances demonstrate that ChatGPT tends to produce false results, raising concerns about the accuracy of the judgements it generates.

The risk of error associated with errors in generative AI technology outlined-above originates from its inherent flaws, specifically, the opaque nature of algorithmic 'black boxes' and the complexities of machine learning.[54] Therefore, the case study demonstrates that, in judicial practice, courts require lawyers to disclose their use of AI tools like ChatGPT and verify the accuracy of AI-generated content. This enhances transparency, prompting legal practitioners to conduct more rigorous scrutiny of AI-generated materials and reducing the risk of disseminating false information. Such disclosure helps the court and the opposing party better understand the source of the document and its potential limitations, thereby maintaining the fairness and rigour of the legal process. For instance, various courts in Texas have addressed the use of generative AI, requiring attorneys to notify the court when using generative AI tools and to confirm the accuracy of AI-generated work.[55] This ensures that the technology is used responsibly and that its limitations, such as the potential for generating inaccurate information, are acknowledged and mitigated. Similarly, courts in Illinois and Manitoba, Canada, have issued orders regarding the use of generative AI in legal proceedings. They mandate that attorneys disclose their use of generative AI and verify the reliability of AI-generated content. These measures aim to balance the efficiency benefits of AI with the need for accuracy and ethical compliance in legal practice.[56] The 'black box' character can obscure the internal processes from scrutiny and external validation, complicating the task of tracing the origin of newly generated information and verifying its accuracy.[57] Machine learning techniques are an integral part of generative AI, which is capable of creating information based on patterns rather than merely retrieving stored data.[58] This technology exhibits a high degree of autonomy and inexplicability by making judgements, reorganising and summarising experiences from diverse data across various contexts, and refining its outputs.[59] Due to the inexplicability of machine learning processes, makes it challenging to disclose the algorithm's model and operational procedures.[60] Consequently, the inherent flaws in AI technology present significant risks of inaccuracies in its outputs. Excessive dependence on AI could exacerbate the risk of error, especially if judges are unable to identify or rectify mistakes present in the output.[61] Such oversights could culminate in an over-simplification of the myriad mechanisms that contribute to and safeguard justice such as appeals processes or peer review, resulting in unfair trials. Therefore, it is suggested that judges should not be allowed to fully trust AI-generated judgements and cannot directly use judgements generated by AI.[62]

However, the development of existing AI technology attempts to overcome this technical shortcoming so that the results generated by AI are interpretable and traceable. For instance, the development of explainable AI (XAI) aims to make the decision-making processes of AI systems more transparent and diversifying the datasets used to train AI systems can reduce the risk of bias.[63] In addition, legal experts, data scientists, and ethicists could also help identify and correct biases or errors.[64] In view of the fact that these technical means can overcome the risk of artificial intelligence errors to a certain extent, if we still want to support this view that the AI-generated judgement cannot be adopted directly by judges and cannot replace the judge's decision-making, but can only assist the judge's decision-making, it is necessary to find answers that are otherwise unrelated to the accuracy of the outcomes generated by AI.

3. The justification for not directly adopting AI-generated judgements

The possibility of errors in judgements produced by artificial intelligence may not provide an adequate basis for resisting their usage. Indeed, the core of the issue is – accuracy and traceability notwithstanding – whether AI-generated judgements constitute a legally and ethically justifiable process of legal decision-making.[65] The theory of virtue jurisprudence provides a basis for evaluating the justification of that judicial decision-making, and this section will based on the virtue jurisprudence, analyse that it is not injustice for a judge to directly adopt the AI-generated judgement and AI can only assist the judge in making decisions, but cannot replace the judge's decision-making.

3.1. The virtuous appearance of generative AI

Evaluating the decision-making process and outcomes of generative AI suggests that AI can mimic virtuous human behaviour and emerge with the appearance of virtue. The appearance of virtue in AI stems from the increasingly high degree of autonomy of generative AI, which allows AI to emulate human moral responses and, perhaps, to a certain degree, human cognition.[66] Generative AI can be designed to simulate human moral behaviour or programmed ethics.[67] For instance, generative AI systems are used to assist doctors in making ethical decisions, such as deciding whether to perform emergency treatment on critically ill patients.[68] Generative AI may analyse the consequences of different options based on preset ethical principles to provide advice. This virtuous appearance makes it difficult for an observer to tell whether a judgement has been made by an AI or a human.[69] Exploring this assertion in more detail, a high degree of autonomy implies that the AI is capable of generating information through algorithms and machine learning that is not directly steered or even entirely understood by humans.[70] Take, for instance, there is a thought experiment about the character of Ava from the 2015 Ex Machina. Ava's scenario: as a machine, Ava has been crafted to respond fittingly to a range of human moral emotions and behaviours, exhibiting characteristics that closely resemble those of humans. Ava passing the Turing test suggests that she could be perceived as human and if Ava's presence were concealed, leaving only her voice audible, individuals might indeed mistake her for a human.[71]

In terms of moral response, whilst AI may not currently be programmed to internalise broad moral tenets, it is anticipated that it will learn to recognise these principles in specific contexts or, at the very least, identify moral actions or outcomes.[72] This includes the potential for AI to make moral judgements based on models of human courage and integrity.[73] AI is capable of storing vast amounts of information using big data technology, endowing it with a significant memory capacity.[74] The use of algorithmic recognition technology seemingly enhances its ability to understand and recognise patterns with a high degree of accuracy; further, AI exhibits the characteristics of intellectual virtues such as comprehensive reasoning abilities.[75] Furthermore, as AI's autonomy evolves, it increasingly demonstrates the characteristics of practical wisdom. Generative AI is capable of questioning its initial conclusions while forming independent judgements and it exhibits the capacity for action and the propensity for affective responses congruent with specific environments by adapting experiences and data in response to varying circumstances.[76]

3.2. Deviation from virtue jurisprudence: AI-generated judgments that fail to generate justified beliefs

The semblance of virtue projected by AI could extend to evaluations of AI itself, prompting questions regarding whether it merely behaves virtuously or if it qualifies as inherently virtuous AI. There is a clear distinction between the appearance of virtue in AI and the possession of virtue as a moral quality. In the philosophy context, consciousness and intentionality are usually considered prerequisites for possessing virtues.[77] Although AI has a high degree of autonomy, it is not equivalent to human consciousness.[78] This section of the paper will argue that AI should not be regarded as a moral agent in the legal context, since it fails to generate justified beliefs, and therefore it could not justify the legal decision. Intellectual virtues are fundamental to the establishment of justified belief and knowledge.[79] Knowledge is a state of true belief that arises from the exercise of intellectual virtue and a justified belief is what a reasonable person would hold under similar circumstances.[80] In addition, the acceptance and adoption of AI-generated judgements could potentially threaten the pursuit of protecting human and social well-being.[81]

3.2.1. The dilemma of constructing social relationships between AI and humans

When considering whether beliefs communicated by AI to humans can be justified, it is crucial to examine the potential for a social relationship between AI and humans. It is proposed that the social relations approach best captures the essence of the virtue and its significance as a virtue.[82] The value of virtue, such as humility lies in its affirmation of the equal worth of all individuals and its promotion of egalitarian social relations through social and political interactions grounded in equality.[83]

In human societies, emulating and transmitting virtues contribute to encouraging members of society to regard one another as equals, cultivating social relationships rooted in emotions, mutual assistance, care, and love.[84] A social property of virtue is a disposition where people naturally and subconsciously comply with societal norms and behave in ways supportive of these norms.[85] One party can inspire belief in their words or actions based on these social relationships. An example of this is the innate care many parents provide for their children, exemplifying a virtuous behavioural tendency. This instinct conveys to both children and to other members of society that they can trust and expect their parents to do the same.[86] While this may not be the case, parenting communicates to the outside world the expectation that if they fail to conform to this social expectation such as by abusing their children, they will be punished with moral condemnation or even the crime of abuse.

However, within the framework of social relationship theory, social relationships are formed between people, which means that AI cannot be considered a part of the social-relational fabric.[87] There can be no nurturing and equal social relationship between a person and an AI. For example, while a person is permitted to purchase AI-based tools, it is illegal to purchase other people. Since no such social relationship exists between humans and AIs that can transmit expectations and justified beliefs, humans also do not automatically have reasonable beliefs about AIs, but rather have conditional trust in them. These conditions include that the use of generative AI-based tools should comply with legal standards and ethical principles.[88] In summary, even if AI's decision-making process bears a resemblance to human virtue, judgements made by AI do not automatically engender justified beliefs in the human psyche.

3.2.2. *The dilemma of AI taking moral responsibility*

When applying the virtue jurisprudence-based evidence analysis approach to AI-generated judgement, it becomes evident that judges cannot form a justified belief based on such judgement. This is primarily because contemporary AI lack moral motivation and cannot assume moral responsibility.[89] Virtue responsibility aligns with internalist theories of knowledge and justice, which maintain that decision-makers are anticipated to ground their beliefs in evidence or be epistemologically responsible and form justified judgements.[90] Judges, too, are expected to derive their assertions from subjects who can be held responsible.[91] A subject who can bear responsibility can exchange the belief of the judge for the trust of the judge by daring to take the risk of making mistakes.[92] It can indicate to the judge that the subject is willing to bear the corresponding responsibility once the AI-generated judgements deviate from the correctness expected by people.[93]

This notion of instilling belief is reflected in laws of evidence, particularly in the analysis of hearsay evidence from an internalist theory of evidence. According to the intrinsic perspective, hearsay is disallowed not due to inherent unreliability but because the recipient of the evidence cannot ascertain its reliability. To elaborate, if witness S testifies to hearer H about a statement p, then S must intend for H to recognise (i) S's belief in p and (ii) S's intent for H to believe in p based on (i).[94] Without the presence of S, then the fact-finder (H) lacks justification for believing S's testimony about p. AI, which cannot be held accountable for the judgements that it generates, and such an entity incapable of bearing autonomous responsibility cannot communicate such belief information, nor can it prompt the judge to form assertions based purely on it.[95]

According to moral responsibility theory, only a subject with phronesis can bear moral responsibility.[96] Phronesis enables an agent to act correctly based on situation-specific experiences, as general rules cannot be rigidly applied to every situation.[97] Phronesis is acquired through experiential learning rather than theoretical knowledge. Such experience, which develops over time, cannot be pre-programmed. Although neural networks aim to replicate (and do, in a loose sense, resemble) the brain's high-level functions and perform well in various tasks, they still have significant limitations.[98] While they can execute complex tasks, neural networks lack consciousness, self-reflection, and emotions, which are integral to the brain's higher-level functions.[99] AI systems base their decisions on data and algorithms, rather than on consciousness or intention. Although future research may narrow this gap, fully replicating all of the brain's higher-level functions is unlikely to be achievable in the long-term future.[100] It is suggested based on a survey of 2,778 AI researchers that there is only a 50% chance that AI will be able to replicate all higher-level human functions by 2116.[101] More specifically, contemporary chatbots cannot match the human brain in terms of self-awareness. They do not have the ability to reflect on themselves, nor can they accumulate experience through their own actions. They can only learn and operate through preset programmes and data.[102]

Generative AI's lack of moral responsibility has a significant impact on the admissibility of court testimony. Since Gen-AI cannot assume moral responsibility, judges cannot determine whether their testimony is based on genuine moral motives. Therefore, judges should not admit the AI-generated judgement, as Gen-AI, as subjects, cannot consider the moral consequences of their statements. Therefore, the judge should not directly accept the AI-generated judgement.

In conclusion, we cannot hold justified beliefs based solely on AI-generated judgements, and thus, a judge's assertion must not originate directly from AI-produced judgements. Doing so effectively entrusts one's fate to an entity indifferent to outcomes. This approach not only contradicts the principles of virtue justice theory but also falls outside what an individual with a commitment to virtuous duties would consider appropriate.

3.2.3. *The dilemma of safeguarding the rights of humans*

The direct adoption of AI-generated judgements significantly weakens the safeguarding of human rights, which is wholly inconsistent with the value objectives of virtuous justice. If AI were to assume the role of judging humans, it would transition from being a mere instrument of the judiciary to an independent judicial entity. This would enable it to operate beyond human control and discretion, potentially dictating the distribution of human interests, which in the legal context is reflected in the fact that an AI-generated judgement would impose civil or criminal penalties on the defendant.[103]

However, it is suggested that AI should not be endowed with the capacity to imprison humans, since human beings alone possess the authority to judge their peers, because human autonomy requires self-determination of their own destiny and individuals should not relinquish the power to determine human fate to AI.[104] The defendant's right to refuse a trial by an AI-generated judgement can be derived from human autonomy.[105] Virtuous justice theory provides justification and principled methods for the protection of human autonomy. Virtuous justice aims to promote the common good of humanity, the ability for citizens to live virtuous lives, and the maximisation of human welfare.[106] Ethical AI design principles that might preserve these rights is required that the construction and operation of AI systems should uphold the tenets of human dignity, rights, freedoms, and cultural diversity.[107] For instance, the Asilomar AI Principles advocate for AI research to focus on creating beneficial intelligence that serves humanity rather than undirected intelligence.[108] Among such objectives is shared prosperity, signifying that the wealth created by AI ought to be distributed broadly to benefit all humanity.

In summary, as creations of the biological human intellect, generative AI-based tools like ChatGPT must respect human rights and needs. Protecting the well-being of people, not AI is a central aim of virtuous justice. Judges who might directly adopt AI-crafted judgements must consider the implications for human rights protection and whether such a practice aligns with the overarching objectives of virtuous justice.

4. Reinventing spaces for judges to develop virtue

Delving into the positive steps to be taken to develop virtue for judges, this section presents an analysis of how judges ought to handle judgements generated by AI. Virtue jurisprudence offers a conceptual framework for judicial behaviour, yet the practical application of such guidance calls for the establishment of explicit norms and requirements for the technical design of AI-generated judgements.

4.1.　Normative rules for judges to use AI to generate judgments

To regulate the actions of judicial decision-makers and practitioners, more rigorous guidelines and design features must be formulated. The European Union, for instance, has advanced several ethical frameworks aimed at directing the use of AI in legal contexts, including the Guidelines for Trustworthy Artificial Intelligence and the European Commission's European Ethical Charter on the use of AI in the judicial system. These guidelines stipulate that judges' use of AI must yield outcomes that are explainable, thereby ensuring user oversight over AI systems.[109] For instance, the Explainable AI (XAI) techniques can furnish defendants with an opportunity to ask the judge for an explanation of that outcome generated by AI, protecting their due process rights, such as the right to a fair trial and the right to question the AI-generated outcomes.[110] Consequently, the defendant is better equipped to understand how a judgement was reached as well as its legal implications. Simultaneously, normative rules also guide the judicial decision-making process, allowing judges to cultivate judges' virtues such as the ability to reason and explain accurately. This transparency serves as a reminder to judges of their duty to explain their decisions and motivates them to embody virtues such as open-mindedness, humility regarding the veracity of their conclusions, and adherence to independent thought rather than a blind reliance on the outputs of AI. It has been suggested that, following the Data Protection Directive, judges who use AI are obligated to maintain transparency and must disclose whether and to what extent AI has influenced their judgements.[111]

In addition, the right to explanation is also critical but ensuring that data subjects are well-informed is equally crucial. Effective regulatory measures are needed to decode this black box to safeguard the rights, freedoms, and legitimate interests of data subjects. For example, regulators could implement measures such as mandatory AI auditing for bias and the publication of AI decision-making frameworks.[112] Data controllers must move beyond passive information dissemination to actively inform data subjects whenever AI is used in decision-making that affects them, which could promote judges' virtues such as impartiality and the conduct of open and fair judicial proceedings.[113] In summary, the development and enhancement of the norms that govern judges' use of AI in decision-making processes are necessary. This would create a normative framework within which judges can manifest their virtues and offer robust protection for the rights of citizens.

4.2.　Technical limitations for judges to use AI to generate judgments

The establishment of normative rules certainly possesses the potential to direct judges towards becoming virtuous.[114] However, a judge's cultivation of virtue is not only shaped by such rules but is also impacted by additional social dimensions, such as legal training and the prevailing legal ethos; merely having access to these guidelines might prove insufficient.[115] Creating an environment conducive to the nurturing of judicial virtues may also necessitate the engagement of additional members of society. In particular, excessive reliance on generative AI technologies may lead judges to directly adopt the AI-generated judgements. In order to reduce this excess, it becomes evident that compared to the gradual development of legal education and cultural environment, a more immediately efficacious approach might be to steer the technology from a technical standpoint. This would require those who develop the technology and oversee its technical aspects to restrict AI usage by judges.

Developers need to ensure that the AI system remains technically secure and robust at all stages of its lifecycle, including design, development, and implementation, to reduce the risk of judges becoming overly dependent on AI.[116] For instance, the High-Level Expert Group on AI underscores the necessity for AI systems to conform to various standards, including human oversight, continuous human control, technical robustness, accuracy, reliability, and resilience against cyberattacks.[117] Developers should integrate features into the AI system that prevent users from uncritically adopting AI-generated judgements without reflection and careful examination.[118] One such measure might be to forbid judges from simply copying or exporting AI-generated textual judgements, compelling them to transcribe them manually. In so doing, judges are forced to reflect on and critically assess the text produced by the AI, integrating it into their own logical deductions and pinpointing any potential errors. This would help encourage judges to develop their virtues such as careful thought, independent verification, and reflection on the judgement. Moreover, it is argued that the incorporation of AI tools into judicial processes must be supervised, with technical tracking the use of AI by judges to ensure that accountability is maintained when evaluating the outputs generated by AI systems.[119]

5. Conclusion

In conclusion, this paper seeks to demonstrate that judges' practice of directly adopting AI-generated judgements is unjustifiable according to virtue jurisprudence. This paper offers a novel perspective to the academic community through an innovative analysis of structured methods, promoting ethical considerations surrounding ChatGPT-generated judgements and laying an empirical foundation for future legal and empirical research. It focuses on the unique impact of generative AI-based tools in legal decision-making, extending beyond the typical examination of general AI systems. Through empirical analysis and case studies, the research retrieves relevant cases, collects statistical data, and systematically explains the data collection and analysis procedures. This reveals the application of ChatGPT-generated judgements and highlights the risk of erroneous judgements. By applying the theoretical framework of virtue jurisprudence for the first time, this paper addresses a significant theoretical gap in academia and provides new insights into how generative AI reshapes the legal decision-making process and the ethical considerations it entails.

AI ought to be used solely as a supportive tool for judges' decisions rather than as an independent decision-making agent. In judicial practice, while judges can directly use AI to write a judgement, this does not mean that the AI-generated judgement is itself as valid. The principles of virtue jurisprudence are the ultimate determiner of whether these AI-generated judgements are valid. Judges must base their legal decisions on the mandates of virtue jurisprudence to ensure their justifiability. Using the accuracy of AI-generated judgements as an easy criterion for judging the validity of AI-generated judgements in the meantime is not good enough, as the risk of such errors can be overcome as technology improves.

While generative AI techniques can simulate virtuous human behaviour and present a façade of human virtues, implying that AI can mirror moral virtues and develop practical wisdom in line with intellectual virtues, this semblance remains purely formal. Indeed, if an AI machine is obscured, its output could be mistaken as the product of human

decision-making. Nevertheless, this imitation only represents a superficial expression of virtue, profoundly distinct from genuine human virtues and cannot be assessed as possessing human virtues. Given that AI is incapable of forming authentic social bonds with humans or accepting responsibility, people cannot justify placing their trust in AI-generated judgements. Furthermore, the direct adoption of AI-generated judgements by judges could jeopardise the protection of human rights. Both the normative and technical approaches can furnish the judiciary with guidelines and opportunities to refine their virtues, thereby preventing judges from directly embracing AI-authored decisions. However, a limitation of this paper is that such approaches have only been implemented for a short period. whether they can be guaranteed to be implemented in practice requires more time for observation and future research. While the ongoing perfusion of AI technology into the legal system may be inexorable, the principles of virtue jurisprudence are indispensable for the use of AI by judges. Virtue jurisprudence underscores the primacy of human judgement and provides a way to justify preventing the inadvertent surrender of legal decision-making authority to AI, which could otherwise strip individuals of their rightful agency in legal processes.

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