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COPYRIGHT PROTECTION FOR AI-GENERATED WORKS: SOLUTIONS TO FURTHER CHALLENGES FROM GENERATIVE AI

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Abstract

Since the 2010s, artificial intelligence (AI) has quickly grown from another subset of machine learning (ie deep learning) in particular with recent advances in generative AI, such as ChatGPT. The use of generative AI has gone beyond leisure purposes. It has now been widely used to generate music, news articles and image-based art works. This prompts a regulatory interpretation as to how AI-generated works should be appropriately used to eliminate their potential harm to society, but at the same time how it should be protected to foster human creativity and promote a well-functioning market.

This article is an update from the author's evidential report and speech on "AI and Intellectual Property Rights: IPR Protection for AI-Created Work" for the evidence meeting of the All-Party Parliamentary Group on Artificial Intelligence on 24 January 2022. It considers whether AI technologies should be granted status as copyright or patent owners by looking into existing regulations in the United Kingdom, European Union, United States and China. It further considers how generative AI copyright protection should be managed in the digital society to protect users and strike a fair balance among rightsholders. It argues that it would be beneficial to a well-functioning market if AI-generated works could be subject to collective management of copyright via copyright management organizations within countries. In addition, the article provides mapping of existing legislations in a comparative study and their interpretation for the application of AI-generated works protection and aims to bring together global policymakers and stakeholders to initiate joint efforts to promote international harmonization on intellectual property rights (IPR) protection for AI-generated works.

Keywords: artificial intelligence; generative AI; AI-generated works; collective copyright management; computer-generated work; copyright protection.

[A] INTRODUCTION

Artificial intelligence (AI) bears two distinctive characteristics of “adaptivity” and “autonomy”, ie being adaptive and autonomous (AI White Paper 2023: para 39), which could “make appropriate generalizations in a timely fashion based on limited data” (Kaplan 2016: 5). However, outputs of AI technologies may not always be predictable. AI is not a new concept as AI technology has been developing since the 1950s. It has steadily progressed with a subset of “expert systems” and “machine learning” since the 1980s. And, since the 2010s, it has quickly grown from another subset of machine learning (ie deep learning), in particular with recent advances in generative AI such as ChatGPT. Generative AI is known to “create text, images, music, speech, code or video based on learning from existing available content” (HM Government 2023: 8).

In the light of the Open AI Terms of Use 2023, when users provide input to OpenAI ChatGPT, OpenAI will not claim any rights over the users’ input. That is, the users’ input is owned by themselves subject to copyright protection, whereas ChatGPT’s output is assigned to users to use for any purpose as long as it does not infringe any applicable law or terms of use (Open AI Terms of Use 2023). This has raised concerns over the fairness of placing the sole responsibility on users for both input and output content in terms of copyright management based on two main considerations:

- ◇ Firstly, when deploying OpenAI ChatGPT in organizations in the European Union (EU), the concern is whether ChatGPT has the obligation to disclose any copyrighted materials that it uses to develop the system, including data feed and data training. If so, under what level of risk assessment should ChatGPT be considered in case of copyright infringement in the light of the four-tiered risk framework in the Proposed AI Act—“minimal risk”, “limited risk”, “high risk” or “unacceptable risk” (Proposed AI Act 2021: article 5).
- ◇ Secondly, currently ChatGPT’s output does not typically include any references or quotations. When users generate answers to the same questions within ChatGPT, the generated answers are fairly similar in terms of content, but with some slight changes in the order of answers and wordings. It is also declared by OpenAI that “due to the nature of machine learning, Output may not be unique across users and the Services may generate the same or similar output for OpenAI or a third party” (Open AI Terms of Use 2023). If users are placed to be solely responsible for the use of output that happens to infringe other users’ copyright, it does not appear to be fair, if users

did not have any awareness of the sources due to lack of disclosure from ChatGPT.

The above two considerations are interconnected with a classic academic debate in recent years as to whether it is justifiable to grant AI technologies as owners for their generated works. This article further evaluates whether AI-generated or AI-created works should be subject to copyright protection (Wang 2022). The discussion is an update from the author's evidential report and speech on "AI and Intellectual Property Rights: IPR Protection for AI-Created Work" for the evidence meeting of the All-Party Parliamentary Group (APPG) on Artificial Intelligence on 24 January 2022, which considered whether AI technologies should be granted status as copyright or patent owners by looking into existing regulations in the United Kingdom (UK), EU, United States (US) and China (Wang 2022).

This leads to further consideration as to how generative AI copyright protection should be managed in the digital society to protect users and strike a fair balance among rightsholders. This article seeks to promote best practices for collective copyright management in the generative AI environment, even though OpenAI may claim fair use to copyrighted materials in its generative AI applications, such as ChatGPT. It argues that there is a need to establish an appropriate risk-assessment framework and a fair collective copyright management system for the adoption of ChatGPT for use in organizations in order to protect users and strike a fair balance of protection among different rightsholders. Finally, it looks into whether it is feasible to create an international consensus or harmonization framework on the intellectual property rights (IPR) regulation on generative AI (Wang 2022).

[B] THE LEGAL STATUS OF AN AI ALGORITHM

In order to grant an AI algorithm status as an owner, the law would need to recognize the legal personality of an AI algorithm. However, it is debatable whether an AI algorithm should be granted legal personality. Some scholars have argued that AI is capable of performing similar tasks to human beings and thus should function as a legal person (Kurki 2019: ch 6). Although advanced AI may be able to perform human tasks via deep learning, AI currently does not have emotions. It has been argued that if AI algorithms could have human consciousness, they should be given legal personality (Papakonstantinou & De Hert 2020). However, even though a recent study has shown that a generative AI application such as ChatGPT may have a significant ability to understand and articulate emotions (Elyoseph & Ors 2023), this is still not equivalent to human

consciousness to have independent legal capability. One of the most common analogies is to compare the legal personality of an AI algorithm to the “most common artificial legal person”—a company, organization or corporation (Chesterman 2020: 820). Granting an AI algorithm as an independent and new legal person status does not appear to be necessary if there is already a legal person such as a corporation which could be responsible for an AI algorithm, or if there are human contributors, such as the owner, creator, software engineer or user, who could be attributed to such an AI algorithm. It could also be argued that granting an AI algorithm an independent and new legal person enables legal entities and natural persons (who would otherwise be liable for such an AI algorithm’s wrongdoings) to escape liability. In order to balance the allocation of the risk and enhance the safety of an AI algorithm, it was also suggested that liability could be further allocated in that a separate entity (such as an “Automated Driving System Entity (ADSE)” in the case of an automated driving system) should undertake ongoing responsibility for the safety tests and standards (Law Commission & Scottish Law Commission 2018: 4.107, 4.109).

There is currently a growing trend of consensus among jurisdictions that an AI algorithm should not be granted legal personality. For example, in China in the case of *Shenzhen Tencent Computer System v Shanghai Yingxun Technology* (2019), the court did not recognize legal personality for Tencent’s Dreamwriter software. In the US, 17 US Code chapter 1 also indicates that “original works of authorship” are restricted to works “created by a human being” (17 USC §102(a)). In the EU, the EU Commission on Civil Rules on Robotics in 2017 considered giving legal status of an electronic person to robots (European Parliament 2017: para 59(f)), while a European Parliament report in 2020 confirmed that “it would not be appropriate to seek to impart legal personality to AI technologies and points out the negative impact of such a possibility on incentives for human creators” (European Parliament 2020: para 14). That is, granting legal personality to AI removes the essential reason for IPR protecting the “human endeavour and spirit” (British Copyright Council 2020) and disrupts the social order of the established human society. In the UK, in the case of *Thaler v Comptroller General of Patents Trade Marks and Designs* (2021), the Court of Appeal also confirmed that AI cannot be given legal personality as an inventor. The inventor must be a human. The owner of the AI-based machine could apply for patent but not the AI-based machine itself (*Thaler v Comptroller General* 2021: para 148). In Australia, there is a different view in a comparable patent case, concerning whether an AI algorithm could be considered

as a patent inventor. For example, in the case of *Thaler v Commissioner of Patents* (2021), the Federal Court of Australia confirmed that the AI-based machine can be given the status of an “inventor” (though there is no legal effect), but the applicant and the owner of the AI-based machine must be a human who is granted patent rights (*Thaler v Commissioner of Patents* 2021: para 226).

[C] OWNERSHIP AND PROTECTION OF AI-GENERATED CONTENT

Even though AI should not be granted legal personality, AI-generated works should still be protected in order to encourage technological innovation and investment to the benefit of economic development, efficiency and the advancement of human society. Currently, although there are no direct regulations concerning copyright protection for AI-generated works, there is relevant legislation concerning copyright protection for “computer-generated work”. For example, the UK Copyright, Designs and Patents Act 1988 (CDPA) (s 9(3)) already recognizes “computer-generated work” which is similar to the New Zealand Copyright Act 1994 (s 5(2)(a)); the Indian Copyright Amendment Act 1994 (s 2(d)); Hong Kong Copyright Ordinance 1997 (s 11(3)); the Irish Copyright and Related Rights Act (CRR) 2000 (ss 21(f) & 30); and the South African Copyright Act 1978 (amended 1992) (s1(1)(h)) under the definition of “author”. That is, in the UK, the CDPA (s 178) defines “computer-generated work” as work being “generated by computer in circumstances such that there is no human author of the work” (CDPA: s 178). Its section 9(3) specifies authorship of work that: “In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken” (CDPA: s 9(3)).

Accordingly, consensus could be established among the UK, New Zealand, India, Hong Kong, Ireland and South Africa that the authorship of the outputs of generative AI should be taken to be the legal person by whom the arrangements necessary (ie AI algorithm, data feed and data training) for the creation of the work, along with the natural person or legal person by whom the additional arrangements necessary (ie inputting of questions or information) for the creation of the work were undertaken. For example, in ChatGPT’s case, OpenAI should be the legal person for generated works, and there may also be a human author of the work—the person entering the questions to ChatGPT—who should be deemed to be the joint author or owner of the outputs. This is because forming

the question is a skilled/creative process. In case of another AI machine automatically generating questions to be input on ChatGPT, the person(s) by whom the arrangements necessary for the creation of the work are undertaken should be considered as joint authors.

With regard to the duration of protection in AI-generated works, the duration of copyright in “computer-generated works” is different in the UK and Ireland, in that Ireland’s protection is 20 years longer than the UK. In the UK, CDPA stipulates that “if the work is computer-generated the above provisions do not apply and copyright expires at the end of the period of 50 years from the end of the calendar year in which the work was made” (s 12(7)). In Ireland, the CRRA (s 30) provides that “the copyright in a work which is computer-generated shall expire 70 years after the date on which the work is first lawfully made available to the public”.

The duration of copyright in “computer-generated work” is already shorter than that of a human creator. Further shortening the duration of copyright in “computer-generated work” may improve data accessibility and availability to foster the digital economy but, arguably, may be perceived as downgrading the value of “computer-generated work” and thus reduce the incentives for AI investment or hinder innovation. In this regard, the balance of these two factors should be carefully weighed.

Before any consensus on the duration of copyright protection in “computer-generated work” can be reached worldwide, the pre-requisite question still lies on whether there could be an international consensus on copyright for AI-generated works, in the light of copyright protection for “computer-generated work” in the UK, New Zealand, India, Hong Kong, Ireland and South Africa. This is because, currently, there are different judicial views and regulatory solutions from and within the EU, China and the US. It is confirmed that “under European (and US) law AI cannot own copyright, as it cannot be recognized as an author and does not have the legal personality which is a pre-requisite for owning (intangible) assets” (European Commission 2023). Furthermore, even though AI cannot own copyright, it is debatable whether AI-generated works should be subject to copyright protection. If AI-generated works can be freely used without copyright protection, such works will directly compete with human-authored works (Trapova 2023) due to the possibility of users escaping copyright infringement liability.

In the EU, the parliamentary report in 2020 considered that AI-generated works should be copyright protected, although “copyright to such a ‘creative work’” should be granted “to the natural person who prepares and publishes it lawfully, provided that the designer(s) of the

underlying technology has/have not opposed such use” (European Parliament 2020: paras 8-9). It is worth noting that in the UK case *Temple Island Collections* (2012) and EU case *Infopaq* (2009), the judgment of *Temple Island Collections* amalgamated “skill and labour” with “the author’s intellectual creative effort” in *Infopaq* and made them equivalent (Guadamuz 2017: 182).

In China the amended copyright law in 2020 retains its position that computer software can be copyrighted and does not extend copyright protection to “computer-generated work” (China Copyright Law 1990: art 8(3)), despite the fact that a leading district court in December 2019 held that an article automatically written by Tencent’s robot Dreamwriter software should be subject to copyright protection (*Shenzhen* 2019). That is, the court ruled that the AI-created work/article should be owned by the company Tencent—a legal person—because the article is “the overall intellectual creation by the overall intelligence of multiple teams and multiple divisions of labour” including the editorial team, the product team and the technical development team employed by Tencent using Dreamwriter software (*Shenzhen* 2019).

Contrary to most jurisdictions, in the US, “computer-generated work” is not subject to copyright protection as US copyright law only protects an original work of a human author (United States Copyright Office 2021), which amounts to “the fruits of intellectual labor” that “are founded in the creative powers of the mind” (US Supreme Court 1879). In the case of *Naruto v Slater*, the monkey selfie photo taken by a monkey pressing a camera button cannot be protected by US copyright law (*Naruto v Slater* 2018). However, there is a different view among US practitioners that “the person in control of the bot is the author worthy of Constitutional protection” (American Bar Association 2017). Setting aside the current restriction of US IPR legislation on AI-generated works, the US Government has established strategic plans and guidance to foster AI development and remove the obstacles of its deployment through the National Artificial Intelligence Initiative Act of 2020 (division E, s 5001). Most recently, there are several lawsuits concerning OpenAI copyrights infringement. For example, on 19 September 2023, a group of authors launched a class action, suing OpenAI for feeding the authors’ copyrighted work into their “large language modules” to provide outputs to users’ prompts and queries, without authors’ prior permission and without paying a licensing fee (*Class Action Case against OpenAI* 2023). On 27 September 2023, another group of authors including Sarah Silverman also sued OpenAI for the misuse of authors’ work to train their AI, and alleged claims for

direct copyright infringement and vicarious copyright infringement (*Open AI Case 2023*).

The UK is currently seeking international regulatory harmonization to ensure market access to innovative AI technologies, boost users' confidence and protect rightsholders (HM Government 2023: 3). Presuming that there is an international consensus to recognize IPR protection for entirely AI-generated (AI-created) works, one of the challenges of protecting AI-generated works in copyright would be when a human cannot be identified for AI-generated works in copyright. If the machines can learn and produce work from each other, those AI-generated works in copyright may not be able to be attributed to specific owners as it would be very difficult to know the proportion of actual contribution to the creation of works. That is, AI algorithms may obtain input data from a wide variety of sources, including those generated from other AI algorithms. Likewise, it is conceivable that multiple AI algorithms could combine to produce their output. As complexity grows, it will become harder to attribute the output to specific owners and harder still to determine the proportion of contribution to the creation of works. In such situations, legal and technical mechanisms should be established to determine humans who make primary necessary arrangements for an identified primary AI algorithm. Those humans should be protected as the joint owners of the copyright work. Humans who make primary necessary arrangements include the creators/programmers/developers/designers of identified primary AI algorithms, the persons who select, input and train the data, and the operators/users of AI algorithms. They could be either joint ownerships (where each contribution cannot be distinguished) or co-ownership (where individuals work is collaborative but separate) (British Copyright Council 2019).

However, if the owners of an AI algorithm do not initially make such a system publicly accessible, they could always establish partnerships with other data providers and AI algorithms' owners and work out the proportion of contribution among them via a contract or licensing agreement. Moreover, it may be reasonable if the owner of the AI algorithm were to be the person solely in charge of determining the split in contribution of effort between the input data and the algorithm itself.

The same analogy may apply for AI-devised inventions in patent protection. In general terms, an AI algorithm can be patented if it meets the standard patent criteria (something that can be made or used, new, inventive). A specific example would be a tech company producing a new face-recognition system, for face-recognition login, that it wishes to

patent. While it is commonly known that facial recognition has been in existence long before such new work, if the new face-recognition algorithm is considered to contain innovations that improve the end result in terms of dealing with challenges such as low light, partial images and different orientations, the new algorithm may contain new technological inventions which should be patentable.

Furthermore, the AI algorithms may be intelligent enough to create new inventions through learning from other AI algorithms and data, without human intervention, and beyond the original AI algorithm's developers or creators' expectations and predictions. In such a situation, legal and technical mechanisms should be established to determine the humans who made the primary necessary arrangements for identified primary AI algorithms. Such AI-devised inventions (the end product/results of these multi-AI algorithms) should be entitled to patent protection if they meet the criteria, and the owners of patent should be the primary "inventors" (Intellectual Property Office (IPO) 2021: 28). That is, provided that "the person(s) responsible for making the arrangements necessary for the AI to devise the invention would be identified as the inventor(s)" (ibid). Accordingly, the most appropriate persons include the creators/programmers/developers/designers of identified primary AI algorithms, the persons who select, input and train the data, and the operators/users of AI algorithms.

It is worth noting that regulatory development may not easily keep up with the pace of fast-moving technological innovation, and thus it is important to maintain technologically neutral regulations. While regulatory solutions are vital to create legal certainty in the longer term, practical and technological solutions are key to boosting public confidence and encouraging investment in the more immediate term. In view of that, it has been suggested that "there is an urgent need to prioritize practical solutions to the barriers faced by AI firms in accessing copyright and database materials" (HM Government 2023: 9). In this regard, the UK is promoting a regulatory sandbox, ie "a live testing environment" to "allow innovators and entrepreneurs to experiment with new products or services under enhanced regulatory supervision without the risk of fines or liability" for a limited time period for the benefit of keeping regulators informed of feasible rules in relevant areas (HM Government 2023: 6). Besides practical solutions, it was also suggested that "technological solutions for ensuring attribution and recognition, such as watermarking, should be encouraged, and could be linked to the development of new international standards in due course" (HM Government 2023: 9). In the UK, the government review has also recommended that the IPO be responsible

“to provide clearer guidance to AI firms as to their legal responsibilities, to coordinate intelligence on systematic copyright infringement by AI, and to encourage development of AI tools to help enforce IP rights” (HM Government 2023: 9).

[D] COLLECTIVE COPYRIGHT MANAGEMENT FOR AI-GENERATED WORKS PROTECTION

The use of generative AI has gone beyond leisure use. It is now widely used to generate music, news articles and image-based artworks. In the UK, Court of Appeal, judge Lord Justice Birss used ChatGPT to assist him in the summary of a judgment where the ChatGPT output formed part of the summary of a judgment (Farah 2023). More recently, in the US, two US courts have even issued notices to ban using ChatGPT to prepare and create legal documents and file legal cases which “create novel risks to the security of confidential information” (United States Court of International Trade 2023; and Thomsen 2023). This prompts a regulatory interpretation as to how AI-generated works should be appropriately used to eliminate their potential harm to society, but at the same time how they should be protected to foster human creativity and promote a well-functioning market. It is posited that one of the prerequisites for a well-functioning market is via “individual licensing and collective management of copyright” which ensures reward for rightsholders (World Intellectual Property Organization (WIPO) 2023: 10). Collective management of copyright is used to facilitate legal access to copyrighted materials via an intermediary (ie a copyright management organization (CMO)) between rightsholders and users, in order for users to avoid a complex and sometimes impossible task to seek direct permissions from authors or publishers individually (WIPO 2023: 14).

In the case of AI-generated works, it could be an even more complex task for users to seek permissions for the use of AI-generated copyrighted materials as that may involve a wider range of authors and rightsholders all over the world. For example, even though ChatGPT claims that it does not own its generated content but is subject to OpenAI’s licence and terms of use as a machine-learning module (European Commission 2023), this is not in line with the current regulatory stand of “computer-generated work” in the UK, as discussed earlier. This is because the authorship and ownership should be shared among the creators/programmers/developers/designers of identified primary AI algorithms, the persons who select, input and train the data, and the operators/users of AI algorithms who make arrangements necessary for the work to be generated. It is

concerning if AI algorithm providers are permitted in law to make a disclaimer to detach themselves from authorship and ownership so as to avoid any responsibility and liability for the AI-generated outputs.

As shown above, it could be a complicated task to determine appropriate persons concerned as owners or authors of AI-generated works, and thus individual licensing for the use of AI-generated works may become infeasible. It would be beneficial to a well-functioning market if AI-generated works could be subject to collective management of copyright via CMOs in countries. In the UK, there is usually one CMO per sector (Gov.uk 2016). There are also specialized CMOs, such as reproduction rights organizations, in the text and image sectors (WIPO 2023: 15).

Accordingly, specialized CMOs for AI-generated works could be established for publishers, and all who make arrangements necessary for the work to be generated, to join and receive awards efficiently in case of their works being in commercial use. In the UK, the consultation outcome on AI and intellectual property has already indicated that it may be helpful to have a “pilot licensing scheme for small AI developers to access scientific and technical material” for training AI systems using text and data mining (Gov.uk 2022: paras 31 and 45). It was also suggested that “collective licensing could be considered where rights holders are represented by CMOs” (Gov.uk 2022: para 45). Academics have also recommended introducing mandatory collective licensing for AI developers who should acquire a licence for AI-generated works via CMOs (Matulionyte & Selvadurai 2020).

[E] A RECOMMENDATION FOR INTERNATIONAL HARMONIZATION

The guidance on National AI Strategy supports “the Plan for Digital Regulation, which sets out our pro-innovation approach to regulating digital technologies in a way that drives prosperity and builds trust in their use” (Gov.uk 2021). The independent AI Roadmap report from the AI Council calls for “robust and flexible regulation”, “clear and flexible regulation”, “adaptive and informed regulation” and “responsive regulation” for all areas including good data practices, ensuring that “existing regulations and regulatory bodies had not only the capacity, but also the capability to fully consider the implications of AI in areas such as labour, environmental, and criminal law” (AI Roadmap 2021). The AI White Paper further addresses the concern over “the absence of cross-cutting AI regulation” which may “create uncertainty and inconsistency” in public trust in AI (AI White Paper 2023). It encourages “a clear and

unified approach to regulation” and “cross-cutting, principles-based regulation” for AI technologies, promotes “central regulatory coordination” and recognizes the importance of “promoting interoperability with international regulatory frameworks” (AI White Paper 2023: para 14).

Although the new overarching framework for AI regulation in the UK proposed in the AI White Paper does not include crucial issues on generative AI such as “the balancing of the rights of content producers and AI developers” (AI White Paper 2023: para 34), the general regulatory approach proposed in the framework in the White Paper (AI White Paper 2023: paras 37 & 48) would nevertheless provide some benchmarking of regulatory approaches and interpretation on these wider issues, along with the “Pro-innovation Regulation of Technologies Review: Digital Technologies” (HM Government 2023). In the AI White Paper, it was suggested that the regulatory framework should be “pro-innovation, proportionate, trustworthy, adaptable, clear and collaborative” whilst implementing “five values-focused cross-sectoral principles” of “safety, security and robustness”; “appropriate transparency and explainability”; “fairness”; “accountability and governance”; and “contestability and redress” (AI White Paper 2023: paras 37 & 48).

Pursuant to the UK National AI Strategy (Gov.uk 2021), AI Roadmap and AI White Paper, the UK should devote more effort to developing regulatory and non-regulatory guidance to encourage development and investment of AI and protect the public interest, safety and values if existing law does not have an adverse effect on the path towards an AI-enabled (or AI-driven) economy and changing the current law brings rewards that outweigh the disadvantages.

In the author’s opinion, the UK should make no legal change to current copyright protection concerning “computer-generated work” as this clause is terminologically and technologically neutral and could adapt to any anticipated technological change. However, as new technologies develop, supplementary regulatory interpretation of IPR legislation is required, for example, the application of the current legislation to AI-generated works should be further interpreted to bring about legal certainty and strike a balance between the protection of rightsholders and the incentives for technological innovation and investment.

In this regard, the UK could set out an initiative to promote international harmonization on IPR protection for AI-generated works in that AI algorithms would not be granted legal personality because when AI algorithms cause harm, a thorough investigation on liability would be required; simply allocating a risk to an artificial electronic person is

not ethically and morally correct. Ultimately, humans should have full accountability and responsibility for their conduct from a social and commercial context. Moreover, granting legal personality to AI does not improve legal accountability. However, AI-generated works should be granted IPR protection to promote innovation and investment. The public should be made aware that if an algorithm has no trace of human owners, the liability will fall to the user of such an algorithm. In addition, there is the possibility of smart contracts within AI algorithms that can negotiate licence fees/royalties for their use on behalf of their owners. Existing IPR legislation would not preclude such embedded terms. A specialized and internationally harmonized collective management system of copyright for AI-generated works would also promote a well-functioning market and encourage continuous technological innovation.

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References

- AI Roadmap. “[Independent Report: AI Roadmap.](#)” AI Council, 6 January 2021.
- AI White Paper. “[Policy Paper: A Pro-innovation Approach to AI regulation.](#)” Department for Science, Innovation and Technology 29 March 2023.
- American Bar Association. “[Copyright Laws and Artificial Intelligence.](#)” December 2017.
- British Copyright Council, “[Information: Co-authors or Joint Authors.](#)” Updated 11 June 2019.
- British Copyright Council. “[Draft Issues Paper on Intellectual Property and Artificial Intelligence: Response from the British Copyright Council.](#)” February 2020.
- Chesterman, S. “Artificial Intelligence and the Limits of Legal Personality.” *International and Comparative Law Quarterly* 69 (October 2020): 819-844.
- Elyoseph, Z & Ors. “[ChatGPT Outperforms Humans in Emotional Awareness Evaluations.](#)” *Frontiers in Psychology* 2023 (14): 1-7.

- European Commission. “[IP Helpdesk: Intellectual Property in ChatGPT.](#)” 20 February 2023.
- European Parliament. Resolution of 16 February 2017 with Recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)) 16 February 2017.
- European Parliament. “Report on Intellectual Property Rights for the Development of Artificial Intelligence Technologies.” (2020/2015(INI)), Committee on Legal Affairs, Rapporteur: Stéphane Séjourné, 2 October 2020.
- Farah, Hilbaq. “Court of Appeal Judge Praises ‘Jolly Useful’ ChatGPT after Asking It for Legal Summary” *The Guardian* 15 September 2023.
- Guadamuz, A. “Do Androids Dream of Electric Copyright? Comparative Analysis of Originality in Artificial Intelligence Generated Works.” *Intellectual Property Quarterly* 2017(2): 169-186.
- Gov.uk. “[Guidance: Licensing Bodies and Collective Management Organisations.](#)” 11 April 2016 (updated 26 July 2022).
- Gov.uk. “[Guidance: National AI Strategy.](#)” 21 September 2021.
- Gov.uk. “[Consultation Outcome: Artificial Intelligence and Intellectual Property: Copyright and Patents: Government Response to Consultation.](#)” 28 June 2022.
- Intellectual Property Office. “[Consultation Stage Impact Assessment on Artificial Intelligence and Intellectual Property.](#)” 29 October 2021.
- Kaplan, J. *Artificial Intelligence: What Everyone Needs to Know*. Oxford: Oxford University Press, 2016.
- Kurki, Visa A J. “[The Legal Personhood of Artificial Intelligences.](#)” In *A Theory of Legal Personhood*, Visa A J Kurki. Oxford Scholarship Online, 2019.
- Law Commission & Scottish Law Commission. *Automated Vehicles: A Joint Preliminary Consultation Paper* Law Com Consultation Paper 240/Scottish Law Com, Discussion Paper 166, 2018.
- Matulionyte, R & N Selvadurai. (2020) “[Response to WIPO Consultation on Impact of Artificial Intelligence on IP Policy.](#)”
- Papakonstantinou, V & P De Hert. “[Refusing to Award Legal Personality to AI: Why the European Parliament Got It Wrong.](#)” *European Law Blog* 20 November 2020.

- HM Government. “[Pro-innovation Regulation of Technologies Review: Digital Technologies](#)” March 2023.
- Thomsen, Jacqueline. “[US Judge Orders Lawyers to Sign AI Pledge, Warning Chatbots ‘make stuff up’](#).” *Reuters News* 2 June 2023.
- Trapova, A. “[Copyright for AI-generated Works: A Task for the Internal Market?](#)” *Kluwer Copyright Blog* 8 February 2023.
- United States Copyright Office. “[Copyrightable Authorship: What Can Be Registered](#).” In *Compendium of US Copyright Office Practices*. 3rd edn, ch 300, 21 August 2021.
- United States Court of International Trade. [Order on Artificial Intelligence](#) 8 June 2023.
- Wang, Faye F. “[Evidential Report on AI and Intellectual Property Rights: IPR Protection for AI-Created Work](#)”, All-Party Parliamentary Group (APPG) on Artificial Intelligence; and “[Speech at the Evidence Meeting of AI and Intellectual Property Rights: IPR Protection for AI-Created Work for All-Party Parliamentary Group on Artificial Intelligence \(APPG AI\)](#).” 24 January 2022 (2022).
- World Intellectual Property Organization. *Collective Management of Text and Image-Based Works*. Geneva: WIPO, 2023.

Legislation, Regulations and Rules

- Copyright Act 1978 (amended 1992) (South Africa)
- Copyright Act 1994 (New Zealand)
- Copyright Amendment Act 1994 (India)
- Copyright and Related Rights Act 2000 (Ireland)
- Copyright, Designs and Patents Act 1988 (United Kingdom)
- [Copyright Law 1990](#) (2020 3rd amendment) (China)
- Copyright Ordinance 1997 (Hong Kong)
- [National Artificial Intelligence Initiative Act of 2020](#) (effective 1 January 2021) (United States)
- [Open AI Terms of Use](#), Release 14 March 2023
- Proposed AI Act. [Proposal for a Regulation of the European Parliament and of the Council laying down Harmonised Rules on Artificial Intelligence](#)

(Artificial Intelligence Act) and amending Certain Union Legislative Acts, COM(2021) 206 final, 21 April 2021: Press Release: “Europe Fit for the Digital Age: Commission Proposes New Rules and Actions for Excellence and Trust in Artificial Intelligence.” 21 April 2021

United States Code

Cases Cited

Case No 1:23-cv-8292 Class Action Complaint – Authors Guild, et al v Open AI, Inc, et al, United States District Court Southern District of New York, lawsuit filed 19 September 2023 (*Class Action Case against OpenAI*).

Case No 3:23-cv-03416-AMO Sarah Silverman, et al v OpenAI, Inc, et al, United States District Court Northern District of California, San Francisco Division, lawsuit filed 27 September 2023 (*Open AI Case*)

Case No C-5/08 Infopaq International A/S v Danske Dagblades Forening, Judgment of the Court (Fourth Chamber) of 16 July 2009

Naruto v Slater, 2018 WL 1902414 (9th Cir April 23, 2018)

Shenzhen Tencent Computer System Co Ltd v Shanghai Yingxun Technology Co Ltd (2019) Yue 0305 Min Chu 14010, Judgment decision on 24 December 2019 by Shenzhen Nanshan District People’s Court

Temple Island Collections Ltd v New English Teas Ltd and Another (No 2) [2012] EWPC 1.

Thaler v Comptroller General of Patents Trade Marks and Designs (2021) EWCA Civ 1374 (21 September 2021)

Thaler v Commissioner of Patents [2021] FCA 879

United States Supreme Court. Trademark Cases, Syllabus from US Supreme Court, 100 US 82, 94 (1879)