



Artificial Intelligence

AI created works – creative, original or just sweat of the brow?

AI is capable of creating music, paintings, sculptures, novels, screenplays, software code and algorithms. The question this paper seeks to answer is whether these creations benefit from copyright protection. Do they constitute original, individual copyrighted material or are they in the public domain?



AI and art

AI can create more than software code and algorithms. It excels in music, able to compose music autonomously in a given style or after 'listening to' samples of a particular musician. The music industry already uses various AI applications: Sony's FlowMachines requires some human intervention, while Amper or Databots are fully autonomous. Visitors preferred AI created expressionist paintings exhibited at the 2016 Basel contemporary art exhibition, a joint experiment of Rutgers University and Facebook, to those created by human artists. IBM's Watson analysed the works of and literature on Gaudí, and created its own Gaudí-style statute. The predictive text keyboard developed by Botnik Studios generated a Harry Potter style short story, although with a somewhat strange storyline.



The concept of non-human works

Traditionally, originality is considered a uniquely human feature as European continental and Anglo-Saxon copyright laws regard only humans as authors. There were cases where authorship as a concept of human creation was unsuccessfully disputed. For example, in a case involving selfies taken by a monkey with a stolen camera, the US Ninth Circuit Court of Appeals ultimately decided that an animal could not own copyright.

Similar to human beings, AI is capable of creating new artworks based on learning and 'inspiration' drawn from analysis of data and patterns. AI is also capable of creating functional works such as software or blueprints.



A question of originality

The fundamental benchmark for protection under harmonised EU copyright law is that the work must be original. The law is however rather vague when it comes to establishing the threshold of originality, defining it as the 'author's own intellectual creation' and specifying that it must reflect the 'author's personality'. Court of Justice case law specifies that a work is protected only if:

- the author was able to 'express his/her creative abilities in the production of the work by making free and creative choices',
- the work expresses a 'personal touch' of the author; and
- the creation process leaves room for 'creative freedom for the purpose of copyright'.

In most European countries, copyright is regarded as the result of intellectual, human creation and may only be granted to a work created by AI indirectly, by linking it to a human author depending on his/her impact on the outcome and involvement in the act of creation. If the process of creation does not originate from a human author or the output does not reach the threshold of originality – generally low for most types of software, functional works, and databases – it is not eligible for copyright protection. This sets the parameters for whether and how different types of AI generated works can be protected under current copyright rules.

Works created by humans using AI as a tool. If the author uses AI as a tool to achieve a determined outcome, the human author retains complete creative freedom over the work and therefore, it can be protected. The work must also meet the personal touch test. The author must be able to fully control the AI tool and express him/herself with its help. In this case, the contributing human person may be considered the author and owner of the copyright protected work. An example may be Amper application where AI and the author are collaborators – the online app allows the user to select instruments, rhythms, styles and tempos to 'collaboratively' generate new music.

Works created independently by AI, but controlled by humans. In this scenario, the human authors have a passive role, but they can make creative choices in the creation process. An example may be the AI utilized in the music industry, where AI can compose different pieces of music. Here, AI generates the work independently without human involvement. It most likely would not meet the personal touch test. The right to pick from a series of AI generated works does not make the chosen work original. This type of AI created works may not fall under copyright protection. However, European case law provides for the possibility that the choice, sequence and combination of elements created by AI expresses the author's creativity in an original manner and achieves a result that is an intellectual creation. In that case, the copyright owner of the work is the person selecting the AI created elements and putting together the pieces of puzzle.

Works entirely generated and selected by AI. Human intervention here consists only of pressing a button or issuing the order to run the programme. AI creates the work independently and selects from a line of similarly created works the one, which best fits the requirements. As the programmer does not have any opportunity to influence the creation process, these type of AI-generated works cannot enjoy copyright protection. The situation is the same in case of works created by AI by use of brute force computing, where AI systematically checks all possible combinations until it finds the correct one. This process does not need human intervention and usually does not allow the author the freedom to make creative decisions or choices. Any works created in this manner definitely do not meet the personal touch test and cannot therefore be protected by copyright.

Our AI insights series has covered topics including the ownership of computer generate works which you can read more about [here](#).



Alternative protection for AI generated works

In terms of copyright protection for AI-generated works, there are a number of different approaches. One is to place AI-generated works in the public domain. Another is to extend the definition of authorship to non-human beings and effectively humanising robots, which would raise several legal, practical and ethical issues. A third approach is granting copyright to the person who operated the AI application – depending on his/her impact on the outcome and involvement in the act of creation.

Neighbouring rights protection can also offer an alternative solution. In most cases, AI needs substantial investment and a substantial amount of work, which is neither creative nor original. Copyright does not protect the investment, diligence or amount of information used for the creation of a given work – often referred to in modern copyright law as the ‘sweat of the brow’ theory. However, in most legal systems, including that of the EU, these are protected under neighbouring rights. These rights give narrower protection to rights holders than copyright and usually depend on the type of work in question, for instance *sui generis* database protection for those who made a substantial investment in the database, film producers who finance and organise the film making process, and so on. In the case of AI generated works not protected by copyright, a newly created neighbouring right may provide some protection. *Sui generis* database protection could be a good analogy. The rights owners could be the operators or users of AI applications, which produce the works.

Finally, some pragmatic thinkers are asking whether copyright protection is needed at all? If creators of AI programmes receive appropriate remuneration so that they are sufficiently encouraged to keep on investing in AI innovation, maybe there is no need to grant copyright protection.



Prospects of AI created works in Europe

The EU regulation for AI created works is currently in its infancy. So far EU institutions have only published guidelines and memoranda of understanding, laying down the foundation of European cooperation in the field of AI research, education and development. When deciding on how AI-generated works should or could be protected, the EU regulator must consider that copyright law and protection must enhance and not encumber innovation and creative work. The solution that best supports innovation should be preferred. As a further step, the regulator should weigh up whether further protection is needed at all in order to enhance innovation or whether the current copyright regime is adequate.

The future of AI created works and the outcome of the EU cooperation initiatives is hard to predict. Europe is currently lagging behind the USA and Japan in terms of creating a supporting framework for businesses and for-profit AI initiatives. The creation of a clear and unified regime on the protection of works created by AI could protect the competitiveness of the EU in the global AI race.

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