Creative Differences – Intellectual Property Law and AI

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While far from settled, IP rights play a critical role in policing the use of AI and protecting the rights of inventors and creators.

The enormous investment being made into artificial intelligence (**AI**) and machine learning (**ML**) means that investors expect protectable returns. Equally, inventors and creators want to be able to control how the products of their efforts are used by others. These safeguards are generally provided by the intellectual property (**IP**) system. However, the unique nature of AI means the legal system may need to adapt to provide the protection the key players expect.

From the use of copyright-protected material to train AI systems, to concerns about who is liable when AI systems copy others' work or infringe a patent, jurisdictions worldwide are grappling with the balance to be struck between the benefits AI can bring and the rights of inventors, content creators and consumers.

Can IP owners stop AI using their creations?

At the heart of many AI and ML platforms are large quantities of material from which the system learns – for example, text from articles, websites, books and academic papers in the case of OpenAI's ChatGPT; computer code in the case of GitHub Copilot; or artworks in the case of DALL-E or Midjourney. However, those materials are themselves products of human intellectual effort and often protected by IP rights, such as copyright.

Use of copyright-protected material without permission may constitute infringement. Whether use of that material in the AI's development is lawful – including digital reproductions used solely within the AI system – depends on copyright infringement defences that differ between jurisdictions. For example, defences such as fair use in the US, incidental temporary reproductions (Australia) or making of transient or incidental temporary copies (UK or EU) may apply. Such defences can depend on whether the ultimate use – such as the AI's output – is lawful. In the US and UK, rights owners (artists and Getty Images, respectively) have recently launched legal proceedings against Stability AI and others, alleging the use of their artworks to train the AI system constituted copyright infringement.

The UK Government recently consulted on whether exceptions to copyright (and database right) infringement for text and data mining should be introduced. The government initially concluded that it would introduce a new copyright and database exception to allow text and data mining "for any purpose", although rights holders would "still have safeguards to protect their content, including a requirement for lawful access". Such an exception was aimed at freeing legally available material for the use of AI systems, rather than a free-for-all approach, but was met with criticism and has now been dropped. Identifying those liable for an AI's use of materials that are not legally available would have been key to ensuring these provisions are effective and did not allow illegitimate use by the back door.

The black box nature of AI systems also presents practical hurdles for IP owners seeking to protect their rights. The fact that it is difficult, or impossible, to know what a computer system does with material it is provided for learning means it may be more challenging, for example, for a copyright owner to establish an AI system made unauthorised use of their work, or a patent owner to establish an AI implements a method claimed by their patent.

When AI goes bad – What happens when AI infringes others' rights?

Apart from use by AI, IP rights can be infringed by outputs produced from computer systems. A recent class action filed against Microsoft in relation to GitHub Copilot alleged, in addition to copyright infringement by the use of code from GitHub to train the system, that asking Copilot to create code achieving particular functionalities would substantially reproduce code Copilot had been trained on.

Moreover, even if materials used to train AI are open source, they can be subject to "copyleft" licences, which require that any derivative works are in turn licensed on terms that were no less restrictive. It remains unclear how such licence terms apply to material used to train AI that, in turn, generates a work, rather than material that is directly incorporated into a derivative work.

AI systems may also perpetrate or enable patent infringement, although, as noted above, the black box nature of AI may cause difficulties for IP owners seeking to enforce their rights. Questions of individual liability also arise, in that any potential liability may be shared or apportioned between developers, users and the AI system itself. Determining who should be liable for infringement enabled by a computer may be difficult, given the challenge in determining the degree of user or developer input into any output or action produced by AI.

The use of AI in the consumer space raises additional issues. Targeted advertising is a prominent tactic employed across the consumer sector that utilises such technologies, and with the advent of virtual and augmented reality and the metaverse, companies have filed patent applications relating to the collection of biometric data for similar purposes. These applications of AI raise issues under privacy and consumer laws that govern how these products are marketed to consumers, how data profiling activities can be lawfully carried out and the resulting data stored, as well as any eventual uses of that data.

AI's use of human intellect also raises ethical questions about the value placed on intellectual endeavours. Indeed, the Australian Government recently announced a review of Australia's copyright regime, citing the importance of

royalties to supporting the arts. However, if an AI system, trained on masses of art from other humans, can produce 'original' artworks, this raises the question: what role is left for original human expression?

How should an AI's creations be protected?

IP protection encourages investment in creative and inventive outputs. It remains unclear, however, how those safeguards apply when an AI system is used either as part of that process of creation, or indeed whether an AI can be considered the creator or inventor itself.

Following attempts by Dr Stephen Thaler to have the AI system known as DABUS registered as the inventor of a patent, courts in the US, Australia, the UK, and the European Patent Office, each concluded an AI cannot be an inventor for the purposes of patent law as currently drafted. The law as it stands requires a human to be the inventor. However, both the UK and Australian courts emphasised that this was not the same question as whether an invention made using, or by, an AI system could be patentable. In doing so, the question has been raised – but yet not answered – how the increasing use of AI might affect questions such as determining whether a patent for an invention involves an "inventive step", which is required for it to be valid. Inventiveness in patent law is judged in terms of the step not being "obvious" to the person skilled in the area of technology into which the invention falls. But what is not obvious to a human may not be the same to an AI system (if an AI is able to appreciate the nature of obviousness at all).

Where AI is used to generate creative outputs, like literary works, computer code or art, copyright would be the usual domain for legal protection. However, in Australia, the UK and Europe, the courts have emphasised the essential nature of human creativity, both as to whether copyright subsists at all and on the scope of protection it affords.

In Australia, the EU and the UK, a work must be "original" to attract copyright protection. Although there is no provision requiring the creator be human, the requirement that a work be "original" has been understood as requiring a human's expression of their free and creative choices. This has led to calls for a specific regime to protect the creative outputs of AI systems. In the UK, there is provision that the owner of copyright in a "computer-generated work" is the person by whom the arrangements necessary for the creation of the work were undertaken.

These questions are the subject of government attention worldwide and may lead to further legislative developments. The recent UK Government consultation on AI considered whether there was a need to change domestic IP laws to accommodate computer-devised inventions and creations. Based on submissions received, the government concluded there was no need to change the law at this time. In relation to the copyright protection already provided for computer-generated works, as set out above, UK law already deems these to be authored, and therefore owned, by the person who makes the arrangements necessary for the creation of the work. For computer-devised inventions, most respondents felt AI is not yet advanced enough to invent without human intervention, but could assist the human inventor and, as such, inventions developed using AI are protected by the current law. More flexibility for text and data mining was proposed, however, and the government confirmed that the area of law concerning the protection and policing of AI via IP rights will be kept under review.

Encouraging investment

Given the plethora of AI applications to different facets of society, there is an obvious benefit in encouraging investment in new and improved AI systems. IP systems worldwide have evolved to support funding of useful inventions and creativity by the provision of rights to own and protect that investment. Different methods and means of protection have been introduced to support different types of creativity and invention – hence the multiple types of IP rights in existence. Governments are considering how to support this new area of economic development – for example, the UK Government has a National AI Strategy which sets out its aim to "secure the UK's position amongst the global AI superpowers". The EU, meanwhile, has been progressing its plans for regulation as set out in its proposal for an EU Artificial Intelligence Act (**Act**), which attempts to limit the risks of AI and which some stakeholders are concerned will choke off investment in the field. However, despite the European Parliament having earlier adopted a resolution on IP rights for the development of AI technologies that acknowledged their importance, the proposals for the Act do not, so far, include proposals on AI and IP.

At their simplest, AI systems are computer systems and are, in theory, protectable by patents as computer-implemented inventions. However, seeking patent protection for such inventions has been met with varying levels of success in different jurisdictions and remains the subject of continued debate worldwide.

In Australia, the High Court recently emphasised the importance of precise characterisation of the invention claimed in determining whether it is patentable. Proposals for a test requiring a computer-implemented invention to be an "advance in computer technology" have been met with criticism, characterising it as a restrictive approach with a chilling effect on innovation, as was said to have resulted from US Supreme Court jurisprudence on this issue.

In the UK and EU (and at the European Patent Office) the assessment rests on the technical advance produced by a computer program – if one can be identified, then the invention may be patentable.

The approach under Chinese law is similar, in that AI systems are likely only patentable to the extent that they address a technical problem and obtain a technical effect, either in the processing of data or in improving the performance of a computer system in a specific technical field.

As a result, there remains uncertainty in assessing the boundaries of what constitutes patentable computer-implemented inventions, which is likely to persist until further guidance is provided by the courts.

Copyright and trade secrets can also provide protection for the source code and technical elements of an AI system, although both have particular requirements for demonstrating subsistence and proving infringement. Database rights can, in certain circumstances, also be helpful in the EU and UK.

The considerable investment into the field will result in continuing pressure from those developing AI for suitable protection of that investment. As it has through the history of human advancement, IP worldwide will likely develop to meet this demand, both through the courts and legislation. The stakes are high for both sides.