

Intellectual Property Law and Artificial Intelligence: A Challenging Opportunity

By Natalie Mkrtchyan
Third-year Law student

The Challenge

Technology has become an integral part of our working and social lives, with computers and mobile devices used to access a variety of useful and often critical applications and data. With this advancing technology, we have seen the emergence of Artificial Intelligence (AI) through many of these exciting and powerful applications from ‘assistants’ on phones and computers like Siri and Cortana to powerful AI systems such as IBM’s Watson and Google’s Alpha Go.

The increase in this capability poses challenges for existing Intellectual Property (IP) laws, questioning the common legal position, which attributes ownership and liability to humans only. Recent case law and academic discussions about the subject suggest that the current framework is struggling to keep at pace with some important IP issues arising as a result of developments in AI. This article focuses on issues of ownership and liability in relation to Copyright and Patent law.

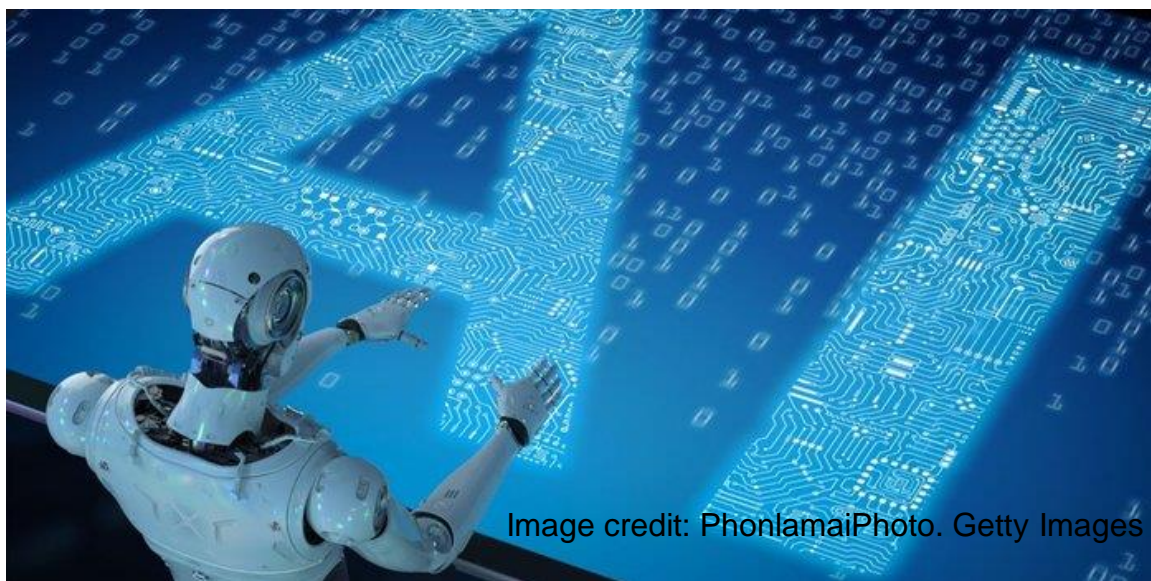


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Can a machine own copyright of generated ideas?

Ownership relates to the “author” of a work. Under the current UK Copyright legislation¹, “author” is a reference to a human. This narrow definition provides that when an AI system is involved in creating the work, the author will be the *“the person by whom the arrangements necessary for the creation of the work are undertaken”*. Thus, the AI itself is excluded from being considered as the author of a work. The unclear meaning of “necessary arrangements” is another gap in the law. The question of whether this is

¹ Copyright Designs and Patents Act 1988

a reference to the person who built the system, the person who trained it, or the person who fed it specific inputs is likely to become a disputed area.

A similar legal position is evident in the US, where Copyright law does not recognise ownership of work generated by a machine. The US Copyright Office states that registration of copyright is only applicable to work created by a human being. The recent US court ruling², which involved a monkey who had taken a selfie using a British photographer's camera led the US Copyright Office to update its rules to:

- Clarify that only humans can be classified as owners of IP and;
- Exclude works produced by a machine or a mere mechanical process that operates randomly or automatically to be protected by Copyright law.

The decision highlights the increasing importance to connect a work to an author to ensure copyright protection.

As AI becomes more sophisticated and more widespread, the pace of technology development seems likely to outpace the current laws, which already appear insufficient to deal with the challenges of this rapidly advancing technology.

Can AI inventions secure patent protection?

AI-generated inventions raise challenges under UK's Patent law³ when determining ownership of the patent. To date, identifying a human inventor has not caused much contention. However, as AI systems become smarter through machine learning and processing big data, the current legal framework will fail to adequately address the issue of determining patent ownership.

Similarly, American law envisages a human as the inventor and there is no concept of a computer being able to produce a patentable invention. However, the absence of a specific prohibition or ruling on patenting inventions created by AI suggests that some AI inventions may be able to secure patent protection.

Attributing Liability

As systems become smarter and more powerful, issues of security and hacking risks will be increasingly important considerations and will raise further challenges to the current IP framework.

As an AI system is not a legal person, it cannot incur liability and IP infringement by such system will, therefore, be attributed to the person or legal entity that controls or directs the actions of AI. With increasing capability of AI to make independent decisions, occasions where data is illegally accessed will become more common and attributing liability for infringement of third-party IP rights will become an increasing issue of contention.

² *Naruto v. Slater*, No. 16-15469 (9th Cir. 2018)

³ Patents Act 1977

Increased connectivity through the Internet of Things platforms and the use of AI in applications in mainstream consumer devices (e.g. Siri on the iPhone and Amazon's Alexa) adds further complexity and risk to the issue of authorised access and data privacy. Data is key to making applications behave in an intelligent manner and can be accessed from many sources with potentially many owners. The recent case involving Facebook and Cambridge Analytica demonstrates the seriousness of data breaches. With more parties now involved and potentially no human (deliberately) instructing illegal access, identifying accountable parties will be a difficult task. Ownership of the data itself will add to the complexity.

Looking forward

Every business will need to ensure that their IP is protected and the legal implications of the products they use or produce are understood with adequate measures and processes in place.

The specific IP protections and risk mitigation will depend upon the precise AI in use; some directly license AI products (IBM, Qualcomm), some produce specific AI applications like driverless cars (Toyota, BMW, General Motors) and some are end users of AI products (e.g. for fraud detection, network security management). Protection of IP for specific purposes should be within the context of the current legal framework, but users and producers of AI solutions should keep up to date with any future developments in this area.

In a recent policy paper⁴, the Government stated its commitment to ensuring that the UK becomes a global leader in the emerging revolution in AI technology. However, the lack of acknowledgement of IP issues in relation to AI suggests that future legislative developments may still be a long way away.

Conclusions

With the rapid development of AI technologies, IP issues in relation to ownership and liability will become disputed areas of the law. Although the current framework does not give much legal protection to work or inventions created by non-humans, increased awareness of issues in relation to ownership and liability could lead to new legislative developments. IP laws and parties who may be affected by such changes in AI will need to adapt in order for this technology to be created and used effectively and competitively.

⁴ <https://www.gov.uk/government/publications/artificial-intelligence-sector-deal/ai-sector-deal>