JONES DAY | One Firm Worldwide®

WHITE PAPER

February 2021

Protecting AI Innovations Through Trade Secrets and Patent Protection

AI is becoming ubiquitous across all industries. AI systems and services are embedded in everyday products and services, including Amazon's Alexa, Netflix streaming services, and Nest smart thermostats. AI systems are also used behind-the-scenes to sift through applicant resumes, filter spam from email mailboxes, characterize medical conditions, match potential soulmates, and streamline online purchases. AI innovations provide many meaningful benefits to society as a whole, and in particular, increased efficiency and opportunities for economic growth in sectors including healthcare, finance, national security, and transportation.

In light of AI's rapid growth and potential benefits, it is increasingly imperative to protect AI innovations. Companies should take a diversified approach to protecting AI innovations, as some aspects may be suitable for (and maximized by) patent protection, while other aspects might be better suited to protection via trade secrets, copyright, or branding. There are challenges and potential obstacles to each form of IP protection, particularly with the evolving nature of protection and uncertain guidance. But there are also clear benefits to each form—hence the need for strategy and advice regarding how to best protect and enforce rights in such IP. This *White Paper* focuses on two increasingly common avenues for IP protection: patents and trade secrets.

PATENT FILINGS FOR AI INNOVATIONS

Patents are often regarded to be the best form of protection for "tech," and as such, the reflexive action in some industries is to protect AI-related innovations using patents. The U.S. Patent and Trademark Office ("USPTO") has reported that U.S. patent applications for AI technologies have increased by more than 100% since 2002.

In order to acquire federal protection in the form of a utility patent, a claimed invention must fall under a patent-eligible category (35 U.S.C. § 101), the invention must be novel (35 U.S.C. § 102), and the invention must be nonobvious (35 U.S.C. § 103). Additionally, the patent must include a sufficient written description of the claimed invention, such that a person of ordinary skill in the art would be enabled to create and use the invention (35 U.S.C. § 112(a)).

In light of the Supreme Court's finding in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208 (2014) (discussed below), several aspects of AI that can be considered abstract will be considered patent-ineligible subject matter under § 101. However, inventions relating to the improvement of computer technologies including computer database systems and information security in computer systems have fared rather well since *Alice*. These successful patents are often characterized and understood as technical solutions to technical problems in computer technology.

PATENT PROTECTION

Patent protection for AI enjoys several benefits, including the right to exclude others from making, using, selling, or practicing the invention. This protection exists even if the invention is independently and subsequently developed by another. Additionally, the value of patents to investors is often easier to analyze and quantify than other forms of IP given the ability to monetize patents through both litigation and licensing. However, patent protection for AI can present challenges that should be taken into account when assessing how to best safeguard and monetize the IP at issue.

DOWNSIDES OF PATENT PROTECTION FOR AI

AI patents can be difficult to obtain. Patent applicants must clear several hurdles before acquiring a patent. One particularly troublesome hurdle for AI inventions is subject matter eligibility after the Supreme Court's decision in *Alice*, which held that patent claims covering certain computer-implemented transactions were abstract ideas ineligible for patent protection. Since *Alice*, AI inventions have often been viewed as claiming nothing more than abstract ideas. For example, an AI invention might be rejected on grounds that its claims (minus any computer implementation claims) recite nothing more than mental steps that could be carried out in one's head, garden variety data manipulation, computations that could be carried out by paper and pencil, or methods of organizing human activities, all of which would be considered abstract and patent-ineligible. Notwithstanding, there have been calls to reform patent subject matter eligibility to more fully protect innovations, including AI innovations by prominent sources including outgoing USPTO Director Andrei Iancu.

Patent applicants also must establish that their claims are sufficiently definite. In accordance with 35 U.S.C. § 112(a), a patent claim must inform those skilled in the art about the scope of the claimed invention with reasonable certainty. This can lead to trouble for AI systems that cannot be defined with adequate specificity, such as black box modeling systems where AI engineers themselves are not always certain of the systems' inner workings.

Further, obtaining—and maintaining—a patent can be costly. The patenting process can take several years and there are also fees required for patent maintenance.

AI patents can be difficult to enforce. When you disclose a technology in a patent, you risk others improperly utilizing that disclosed information for their own commercial benefit. In such cases, the patent system allows a patent holder a form of redress: filing a lawsuit to collect damages, or acquire an injunction, based on infringement. However, in order to obtain damages or an injunction, the patent holder must establish that infringement occurred. In several AI technologies—such as black box modeling systems—detecting whether such technology is used in a competitor's product can be extremely difficult or even impossible.

Additionally, in asserting a patent, the patent holder could place the patent at risk of being challenged in a District Court or through the America Invents Act. There are various defenses an alleged patent infringer can assert, such as the prior commercial use defense under 35 U.S.C. § 273. This defense provides that in the presence of clear and convincing evidence that the alleged infringer had engaged in commercial use of the patented subject matter at least one year prior to the

patent's effective filing date, the "prior user" would be allowed free and clear historical and future use of that patented subject matter.

Patents require significant disclosure of technology. By their nature, AI patents necessarily disclose a patent holder's technology, and its potential advantages, to competitors. Patents must be disclosed in reasonable detail, which could give competitors insight into a patent holder's business.

AI technologies develop quickly. A patent application may take several years to mature into a patent. During the interim, there are risks that the AI at issue could be rapidly built upon or even replaced with new technologies thereby lessening the value of any issued patents. In addition, patents expire after 20 years from their filing date.

BENEFITS OF TRADE SECRET PROTECTION FOR AI INNOVATIONS

In the United States, trade secrets are governed mostly by state-implemented versions of the Uniform Trade Secrets Act ("UTSA")—adopted by 49 states, minus New York—and the nearly identical, federal Defend Trade Secrets Act ("DTSA") of 2016. Under both the UTSA and DTSA, proving the existence of a trade secret requires that a party show:

The information was secret;

- The information had actual or potential independent economic value because it was secret; and
- The party made reasonable efforts to keep the information secret.

After establishing that information constitutes a trade secret, a party must prove additional steps to prove trade secret misappropriation. A party must show:

- The information constitutes a trade secret (see elements above);
- The party owned or was a licensee of the information at the time of misappropriation;
- The other party improperly acquired, used, or disclosed the trade secret;
- It was harmed or the other party was unjustly enriched; and
- The other party's acquisition, use, or disclosure was a substantial factor in causing the harm or unjust enrichment.

Trade secret protection offers several potential benefits for AI innovations:

AI technologies that are difficult to reverse engineer are particularly well-suited for trade secret protection. As discussed above, one major reason for pursuing patent protection is to prevent others from developing and marketing products using the protected technology. This is particularly the case where the technology could be readily reverse engineered by a competitor such that, absent patent protection, the innovation would be particularly vulnerable to copying. The drive to pursue patent protection is lessened where the underlying innovation is difficult to reverse engineer. By keeping such an AI technology as a trade secret, the inventor would be preventing others from having access to and potentially using the technology.

Such innovations may include the method and know-how for extracting useful information from raw data sets and subsequently generating models using the extracted information, as well as methods and know-how for training and utilizing models.

AI technologies where infringement would be difficult to detect can be candidates for trade secret protection. It can be difficult to assert an AI patent where infringement is difficult to detect and prove. For such technologies, trade secret protection can be considered; however, similar difficulties can arise with regard to identifying misappropriation of trade secrets by competitors (as opposed to by former employees who had access to such trade secrets).

Trade secret protection lasts indefinitely—so long as the information is maintained as a trade secret. Accordingly, licenses can continue indefinitely without expiration dates.

Trade secret protection may be available for IP that is ineligible for patent protection. Raw data, extracted features, or training

sets, used to inform machine learning models and otherwise develop AI algorithms, may not be eligible for patent protection; but they may be protectable as trade secrets. Likewise, trade secret law is in a unique position to protect business plans for how a company intends to use AI-generated information and models for its own competitive advantage. Trade secret law can even protect know-how regarding what does and does not work.

Trade secret protection has a low barrier to entry. Trade secret protection is effective immediately, with no need to procure protection via the USPTO (and meeting the requirements of showing novelty or non-obviousness as required to obtain a patent). In fact, trade secrets do not have to be registered at all, so there are no hefty preparation or filing fees.

DOWNSIDES OF TRADE SECRET PROTECTION

On the other hand, it is important to consider the potential downsides of trade secret protection for AI. Trade secrets do not protect against independent innovation. If a competitor independently develops the same innovation it may be difficult to prevent them from exploiting that technology. Further, a competitor could potentially be awarded a patent on the same innovations that they can attempt to enforce. There are also business costs of keeping an invention secret, such as limiting access to physical server rooms, data loss prevention software, and negotiating robust licensing terms and non-disclosure agreements. Additionally, the value of trade secret protection can be difficult to quantify for potential investors, particularly when considering that trade secret protection is lost forever once disclosed. And, although this may not be a top priority for a business, maintaining trade secrets can be viewed as hindering innovation and collaboration by keeping technological innovations secret.

WHAT'S NEXT?

As AI continues to evolve and the law adapts to the changing technological landscape, businesses should proactively and frequently consider how to best safeguard their AI-related IP. Depending on the circumstances facing a business and its technology, the business should consider whether trade secret protection would be a better option over patent protection. In many cases, a company can even use a combination of the two to customize IP procedures to best suit the business and its technology. For example, a party may seek patent protection for an AI invention that is patent-eligible while keeping training sets and optimized parameters for the invention as trade secrets. Alternatively, an AI innovator may file a utility patent application on the invention and gain up to 18 months (if filed solely in the U.S.) towards patent protection before deciding whether to protect the technology as a trade secret. Clearly, the decision between patent and trade secret protection for AI can be complicated, and it is highly advised that a company obtain professional legal advice before pursuing any one IP strategy for AI innovations.

LAWYER CONTACTS

Authors

Matthew W. Johnson
Pittsburgh
+1.412.394.9524
mwjohnson@jonesday.com

Carl A. Kukkonen III
San Diego/Silicon Valley
+1.858.314.1178/+1.650.687.4178
ckukkonen@jonesday.com

Emily Tait
Detroit
+1.313.230.7920
etait@jonesday.com

Additional Contacts

A. Patricia Campbell
Silicon Valley
+1.650.687.4138
pcampbell@jonesday.com

Guoping Da
Shanghai
+86.21.2201.8085
gda@jonesday.com

Hilda C. Galvan
Dallas
+1.214.969.4556
hcgalvan@jonesday.com

Andreas Holzwarth-Rochford
Frankfurt
+49.69.9726.3986
fholzwarth@jonesday.com

Andrea Weiss Jeffries
Los Angeles
+ 1.213.243.2176
ajeffries@jonesday.com

Megan McKnelly, an associate in the San Diego Office, contributed to this White Paper.

Jones Day publications should not be construed as legal advice on any specific facts or circumstances. The contents are intended for general information purposes only and may not be quoted or referred to in any other publication or proceeding without the prior written consent of the Firm, to be given or withheld at our discretion. To request reprint permission for any of our publications, please use our "Contact Us" form, which can be found on our website at www.jonesday.com. The mailing of this publication is not intended to create, and receipt of it does not constitute, an attorney-client relationship. The views set forth herein are the personal views of the authors and do not necessarily reflect those of the Firm.

© 2021 Jones Day. All rights reserved. Printed in the U.S.A.