IPR Issues Concerning Artificial Intelligence

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It is fairly evident that Artificial Intelligence (AI) has moved from theoretical realm and is now creating economic contribution. It is predicted by the AI index report released by Stanford University that since 2021 to 2023, investments in AI have reached approximately (USD) $ 94 billion and if this trend of AI growth continues, it is projected to contribute 1% of the US GDP by 2030 . From autonomous vehicles to medical diagnostics, to weather forecasting AI is already impacting even the mundane aspects of everyday life (Fairly evident from the fact that AI patents are found in many different classes).

As rightly pointed by our esteemed Parliamentarians, that India's COVID vaccination and related assistance app "COWIN" is a prime example of the positive impact of technology, and its capability to streamline loosely organized sectors, bring certainty in record time and alleviate pain and suffering. More than 200 billion Covid-19 vaccines were administered to about 120 billion people in a year. Keeping a central database of the vaccination records of each individual, helping them schedule appointments for the second or booster doses in a place of their convenience, is an extremely impressive feat, especially when seen in the context of the diversity of the Indian populace, the sheer numbers involved and the fact that a large portion of the populace still resides in semi-urban and rural areas.

Now, technology is not merely a tool that adds a little spice and sauce on the side in a creative endeavour, that is predominantly human. Instead, it has developed to such an extend, that it now makes many of the decisions involved in the process of creation of art and information of any ind, without human intervention. One can cite the example of the much talked about AI "DABUS" developed by Dr. Stephen Thaler, which, as per Dr. Thaler, conceived the invention without any contribution from him

Having said that, despite the seemingly unimaginable wonders that AI has displayed over the past few years, we must recognize that we are still in early days of AI's revolution. As we step into the next phase, we must wade through and overcome challenges, so that we promote ethical innovation, and have a concrete law and policy framework which ensures that AI development happens in an ethical, inclusive and unbiased manner.

Some identified challenges that lie ahead!

Both the development and use of AI technologies have the potential to be hindered by several identified challenges. For example:

- How can we efficiently protect investment through intellectual property protection within a company developing new AI technologies?
- How can a data set which is used to train the AI and pre-trained model be protected? Do we resort to conventional norms of copyright protection? Will that be sufficient, considering that some regimes recognize copyrightability of databases, and some don't. If not copyright, then does one resort to trade-secret protection? But, doesn't trade-secret restrict the database's reach and application in third party technology?
- What kind of intellectual property rights by AI will be created, and how will ownership of such IP be organized and monetised? For instance, IP ownership issues with regard to Generative AI systems that can produce novel images, music, or text in response to user prompts, are the talk of the town these days! Are the existing norms such as the work forhire doctrine, work created in the routine course of employment sufficient? If not, then should we move towards a bespoke or tailor-made law for ownership of AI, the creations and output it generates? To avoid inconsistency in national regimes, should there be an umbrella international convention, setting out basic ground rules for all to follow?

Who Owns The Rights in AI Creation?

Answers to these questions may seem easier than they are in reality, and require in depth understanding of the process of generating AI output Let us take one scenario where raw data is collected from large groups of people or sensors about an object or event. When combined with a specially designed algorithm, this raw data can help computers create inventions without human involvement. Several interim inventive steps are also involved, like removing noise from raw data or evolving trained models that are then processed in AI engines to create an outcome which is new, novel and have industrial application.

Let's also consider the case of Generative AI: a set of algorithms, capable of generating seemingly new, realistic content—such as text, images, or audio—from the training data much of which is scraped from the internet, or other pre-fed datasets .

By one yardstick, the traditional work for hire doctrine or copyright law doesn't help answer who owns the IP in this kind of data. The AI isn't really employed by the user at whose behest content is created. For instance, Microsoft Bing (which runs on the same Large Language Model that powers

Open AI's Chat GPT and GPT-4), when asked to explain the recent crash of the Silicon Valley Bank, but using examples of monkeys and bananas, returns a rather creative response. It expresses a complex banking and economic phenomenon in simple, creative language that is befitting of a children's book. The answer was created at the instance of a user of Microsoft Bing. But, does that user get to claim copyright? Similarly, should Microsoft get to claim copyright on all content that Bing generates despite having no direct role in the content creation process? Something doesn't sit quite right with either of these approaches, quite obviously.

Perhaps a bespoke framework which is conscious of the realities of AI , and considers the second and third order impact of transferring ownership of AI content on any entity or individual, is the need of the hour.

When speaking of ownership of patents, the scenario is similar, though somewhat different on nuanced aspects of patent law. Patent regimes, of most jurisdictions, require an inventor to be either a human being, or a legally recognized corporation, to claim the status of an inventor of a patent. .

Case law and policy developments in AI-Authorship and AI-Inventorship

On February 21, 2023, the US Copyright Office published its mandate, stating (once again) that no copyright exists on AI Generated work, generated by AI. In the case it was considering, the AI in question was a tool called Midjourney. At the same time, balancing this legal position with the law in the USA, the Copyright Office did recognize the copyright of the human involved in the process on the Work's text as well as the selection, coordination and arrangement of the Work's written and visual elements. Specifically on the question of AI Generated work, there the following cases currently pending in the United States, deserve mention:

1. The proposed class action complaint filed against Microsoft, GitHub, and OpenAI by a group of anonymous coders (Plaintiffs- John Doe) alleging that the Defendants have misappropriated the source code developed by the Plaintiffs and have violated the terns of open-source code licensing by not providing credit.The Defendants have subsequently filed a motion to dismiss the aforesaid Class action complaint mainly on the grounds of failure to disclose the nature of injury caused and non-identification of the works in which the infringement has occurred
2. The second case has been filed by Getty Images against the AI Company – Stable Diffusion– for violation of copyright due to the AI generated art work created by this tool. It is alleged by the Plaintiff, Getty Images that the Defendant, Stable Diffusion, has misappropriated the images and the captions, the metadata of the Plaintiff without due permission and proper licensing/payment. This case is still pending before the District Court of Delaware.

3. With regard to AI tool to be an inventor has been the focus of some recent high profile court cases about a tool named DABUS(Device for the Autonomous Bootstrapping of Unified Sentience), created by Stephen Thaler, president and chief executive of US-based AI firm Imagination Engines. Thaler claims DABUS is the inventor of a new type of food container with a specially patterned surface, as well as a light that flashing with a special pattern of pulses for attracting attention in emergencies. Apart from South Africa, Dr. Thaler's attempts at securing patent inventorship for DABUS have been unsuccessful in other jurisdiction such as USA, EU, UK, South Korea, New Zealand, Australia etc. Most jurisdictions have not entertained Dr. Thaler's application to recognize DABUS as the sole inventor, on the ground that an inventor must be a natural person, and that an AI does not qualify for inventorship. Appeals are pending against these decisions, with the UK Supreme Court having recently reserved judgment. The decision is expected to be released soon.

These decisions, once finally resolved, will help move the discussion forward on if an AI can have a valid claim for inventorship, what conditions must be satisfied to receive that recognition, or whether joint-inventorship is the maximum that an AI can lay claim to, in the current zeitgeist.

Should there be copyright restrictions on AI's access and use of third party, proprietary data and information?

The question of whether AI systems should be allowed to train on text, audio, images, and videos that are legally accessible to Internet users but are also protected by copyright, has seen intense debate for a while now.

One school of thought, especially that of creators, artists and copyright owners, argues that it is unfair for developers to train their AI tools and systems on content, that is protected by copyright, especially because such access and use is unauthorized.

On the other hand, a counter-narrative exists, and argued that there is no intrinsic rationale for why users of generative AI systems would need to obtain permission to train on copyrighted content they have legal access to. It argues that unless human creators will be required to obtain permission before they can study another person's work, this requirement should not be applied to AI.

However, access and use are separate issues. While one may be able to have access to copyright protected content, its use for the purpose of creating content, or generating other forms of output, which, ultimately, is sold commercially by the AI's creator, is usually prohibited under several regimes, unless it is exempted under domestic law such as under the fair use doctrine (US law), fair

dealing (India) etc.

The Data Conundrum

The premise that access to data is key for data-driven innovation—*including for the development of artificial intelligence (AI) systems and applications*—is broadly recognized across borders. Yet multiple technical, economic and legal challenges to barrier-free and responsible data sharing persist. The broad legal frameworks for Data Protection and Data Sharing are still in nascent stages. Just as with the case of IP law, having an international agreement on harmonizing basic rules and regulations on the access, collection, use, monetization etc. of personal and non-personal data is necessary, as cross border data flows is key to the Digital Economy.

Many countries have or are legislating protection of Personal data, as data that identifies a person or makes a person identifiable, through data protection rules (e.g., the General Data Protection Regulation in the EU or India's Draft Digital Personal Data Protection Bill, 2022). Though seemingly comprehensive, these laws regulate the safety and security of personal data of users and data subjects. Other aspects such as data monetization need to be regulated and need to be recognized as enforceable legal rights. As the debate and discussion on this issue matures, we will get clarity on whether the existence and monetization of such rights will be regulated within the IP framework, or whether they will be recognized as separate rights.

By now, it is generally agreed that the sharing of data will generally increase innovation in the interest of society and in the light multiple public interest goals. Therefore, legal frameworks, especially for licensing, that enhance voluntary data sharing should be promoted. Where data holders refuse to share data with the objective to control markets (especially aftermarkets), legislatures have started to legislate on new data access and use rights to make data more broadly accessible.

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