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AI, Software and Patents: Towards a Post-COVID Changing Game

FINAL REPORT

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Global Digital Encounters

Encounter 5

Date: September 25, 2020

Speakers:

Dr. Noam SHEMTOV, Reader in IP and Technology Law and Deputy Head of CCLS, Queen Mary University.

Prof. Dr. Xiang YU, Professor at the School of Management and the Director of the Sino-European Institute for Intellectual Property of HUST

Moderator: Dr. Marco Alemán. Director of the Patent Law Division at WIPO

The 5th Encounter discussed the intersection between AI & Patents approaching the aspects of Patent Law that need to be revisited in a changing world, especially due to the impact of the pandemic.

First Speaker- Prof. Dr. Xiang YU:

- Pro. YU first introduced examples of AI developments to highlight that technologies can be “used” or “misused”. In light of this, he remarked that AI technology should be driven by the principles of “fairness, ethics and safety”. These principles should also guide law makers when it comes to laying down or construing patentability requirements, compulsory licenses, etc.
- He stressed that, on the one side, there is an increase of AI applications (i.e. “AlphaGo” or “Robot Sophia” which was the first Robot in acquiring citizenship), as well as a rising number of AI patent applications (especially in China) but, on the other, only in recent years law and regulations to AI are being discussed at policy level.
- He then turned the discussion to the main challenges that AI might pose to Patent Law, envisaging them in the patentability requirements and liability rules.
- From the patentability standpoint, he emphasised the need to “revisit” patentability exclusions in this “weak stage” of AI to exclude inventions such as those that have unpredictability and potential irreversibility (es. Bias machines) or consist of merely computer software. Moving to novelty, industrial application and inventive step requirements, Prof. YU invited to considerate whether a new

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special criterion should be developed for AI inventions, remarking the importance of keeping the threshold of novelty not too low, in order to exclude junk patents, and not too strict, in order to avoid the exclusion of breakthrough technical solutions.

- Further, he reminded that in the realm of AI-generated inventions, “ownership” represents a heavily discussed challenge. He drawn some proposals for consideration which go from allocating ownership to the AI itself - to which he was personally not in favour - to on the inventor/owner of the AI.
- He then turned the analysis to the liability challenges, highlighting the main characteristics of AI infringements. Based on the infringement model of cloud computing, he illustrated US Judgments that could assist in the “multi-stage implementation” to AI liability (see, for example, [Limelight Networks v. Akamai Technologies, 134 S. Ct. 2111 - Supreme Court 2014](#)).
- Prof. YU concluded that public property regime for AI-generated inventions, at least in this “weak AI stage”, might not be appropriate. Similarly, he took the view that the creation of a new *sui generis* right might not be necessary in the present stage. Both, public property and *sui generis right* might be considered as a solution during the “strong AI stage”. In any event, he stressed the importance of increasing safety and ethics in AI regulations (see, among others, [Ethics guidelines for trustworthy AI, European Commission](#)).

Second Speaker: Dr. Noam SHEMTOV

- Dr. SHEMTOV introduced a difference among the current scenario, in which AI systems are programmed to perform one single task or a set of related tasks, an advanced stage of AI performing any human task, and the most advanced stadium where Artificial Super-intelligence will be intellectual creative and exceed the cognitive performances of the human domain.
- He shared his view in relation to patent entitlement and patent eligibility; in particular he referred to the findings of his [Study on Inventorship in Inventions Involving AI Activity](#) (published previously to [DABUS](#) EPO Decisions).
- Under such study he analysed two main questions:
 - 1) Whether AI could be designated as inventor.
 - 2) (if not) whether a change of law was desired.
- The first question encompassed an analysis of Patent Law provisions of main jurisdictions (IP5: CNIPA, EPO - in particular, the 8 key jurisdiction of EPC, including France, Germany, Switzerland and UK - JPO, KIPO, CNIPA), which showed that all these jurisdictions included either law or case law provisions that the inventor need to be a natural person. This is also confirmed in [Thaler](#)

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[v The Comptroller-General of Patents, Designs and Trade Marks \[2020\] EWHC 2412 \(Pat\)](#). Hence, as a matter of law, AI cannot be designated as inventor in the current scenario and in the foreseeable future. Moreover, according to the rules of the abovementioned jurisdictions, the human agent could be always identified in the present stage.

- Regarding whether the law should be reconsidered so that AI could be identified as an inventor in a future in which only AI will impulse the inventions, Dr. SHEMTOV expressed his view, on whether the AI-generated invention should be protected under patent law rather than *sui generis* right, and elaborated on the hypothetical adoption of another class of patents allowing to not identifying the concrete inventor. This last solution would avoid the complexity of the involvement of national systems in identifying and registering AI as inventor.
- From the eligibility standpoint, in the current stage, when the AI system itself is subject matter of patent, he referred to the EPO guidelines about identifying the concept of technical solution. Regarding AI-assisted inventions, he suggested to adapt the concepts of person skilled in the art and state of art to a scenario where AI is becoming more prevalent in the invention making process.
- With regards to patentability of AI systems themselves, he raised the question about enablement and sufficiency of AI-inventions which refer to black box or lack explicability.

Conclusions

Moderator Dr. Marco Alemán

- According to the moderator, the speakers pointed out the important role of the patent system to promote innovation in the AI field.
- On the other hand, it was well described that AI-related inventions can be linked to the human being that substantially contributed to the invention; thus, there seems to be no needs to revise the existence rules about inventorship.
- Eventually, speakers and audience put forward the importance of a better understanding of the role that might play the exclusion of patentability on ethics and moral grounds in the field of AI.

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