Pratap Devarapalli
IP Strategist and Patent Researcher.
Faculty of Law, University of Tasmania,
Sandy Bay, Hobart, Australia, Postcode- 7005.
Email: pratap.devarapalli@utas.edu.au
Phone: +61 466 639 549

Invited Researcher, Institute of Intellectual Property
Foundation of Intellectual Property, Tokyo, Japan.

WIPO Scholar, WIPO-QUT Masters of Intellectual Property Law
Queensland University of Technology, Brisbane, Australia.
World Intellectual Property Organization, Geneva, Switzerland.

14 February 2020

By email to: pratap.devarapalli@utas.edu.au

Intellectual Property Policy and Artificial Intelligence Inquiry

World Intellectual Property Organization.

Dear WIPO Secretariat,

Submission in response to the WIPO's "Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence" (Ref. No. WIPO/IP/AI/2/GE/20/1)

Thank you for the opportunity to make this submission in response to the draft issues paper on intellectual property policy and artificial intelligence. This submission responds specifically to the issues detailed in the draft issues paper dated 13 December 2019.

1. PATENTS

Issue 1: Inventorship and Ownership

1.1. The draft issues paper has noted that:

> … AI is a tool that assists inventors in the invention process or constitutes a feature of an invention…AI does not differ radically from other computer-assisted inventions. However, it would now seem clear that inventions can be autonomously generated by AI, and there are several reported cases of

applications for patent protection in which the applicant has named an AI application as the inventor. (Page 3 (6))

1.2. Before considering the aspect of inventorship, we should first consider the meaning of an “invention” and “inventor”. TRIPS didn’t provide any specific definition of what is an invention or who is an inventor. Patent laws of some jurisdictions define an invention as a human creation.[1] Here, the question that should be asked is how an AI can be identified as an inventor? and how its autonomously developed invention can be identified as an invention?

1.3. With respect, AI incorporated machines are being used in different industrial sectors specifically in research and development. AI assists inventors to develop an invention more efficiently in less time. Patent ownership and inventorship issues occur when there are more than one person or organization involved in developing patentable inventions. This ownership and inventorship issues are more likely to occur in the case of inventions assisted by AI.

1.4. Patent ownership issues arise in the absence of contract agreements between the collaborating companies. Let’s assume that a Pharmaceutical company (A) takes assistance of an AI company (B) to develop an AI model. In the absence of a contract agreement it would be tough to decide the ownership of inventions developed during collaboration.

1.5. Inventorship issues occur in between two individual inventors or sometime a group of investors working in the development of an invention using AI. Let’s assume that one inventor (A) has developed an AI program and another inventor (B) has taken assistance of that AI program to create a patentable invention. In a scenario where both individuals are not interested in joint inventorship, it would be tough to

[1] *Section 35 USC 100 (f)* of US Patent Act, “the term ‘inventor’ means the individual or, if a joint invention, the individuals collectively who invented or discovered the subject matter of the invention.”; *Art. 15* of Mexican Law 1991, invention is considered any human creation that allows transformation of matter or energy existing in nature, to be used by men for the satisfaction of his specific needs.

decide the inventorship of invention that has been developed using AI and if AI program is found to be the only creative aspect of the invention.

1.6. The draft issues paper has noted that:

> …the inventorship issue also raises the question of who should be recorded as the owner of a patent involving an AI application. (page 3 (7(ii)))

1.7. Considering the issues detailed in 7 (ii) of the draft issues paper, before considering the question of who should be recorded as the owner of a patent involving an AI application, the questions that should be asked is how much percentage of contribution do human and AI share in development of an invention? What part of invention is autonomously developed by AI and whether that specific part is an innovative and creative contribution to the invention? Do we have any legal instruments that can measure the creative contribution of AI?

Issue 2: Patentable Subject Matter and Patentability Guidelines

1.8. Article 27 of TRIPS[2] provides the requirements for an invention to be considered as a patentable subject matter. Specifically, Article 27(2) details that,

> Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.

1.9. Before considering the patentability of the inventions that are autonomously developed by AI, the questions that should be asked is whether the autonomously developed invention is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health?

[2] *Marrakesh Agreement Establishing the World Trade Organization*, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1C (*Agreement on Trade-Related Aspects of Intellectual Property Rights*) ('*TRIPS*').

Issue 3: Inventive Step or Non-Obviousness

1.10. The draft issues paper has noted that:

> A condition of patentability is that the invention involves an inventive step or be non-obvious. The standard applied for assessing non-obviousness is whether the invention would be obvious to a person skilled in the relevant art to which the invention belongs. (Page 3 (9))

1.11. Considering the above, that questions that should be asked is, what is the level of skill of the person skilled in the art in comparison with the skill level of AI? Is the person skilled enough to be qualified as person skilled in the art to assess the autonomously developed invention? Is it justifiable to identify a person to assess the obviousness criteria? A person or an individual skilled in the art would comparatively have more creative intellect than the AI and hence the person may consider the invention as obvious and it can be vice versa. In this scenario, is it legitimate to select a person or individual to assess the obviousness criteria of an invention that is autonomously developed by AI? Is considering a skilled AI instead of a person to assess the obviousness criteria would be justifiable?

Miscellaneous Issues Related to Patents

1.12. Practicing the Exclusive Patent Rights: A patent is a form of intellectual property that gives its owner the legal right to exclude others from making, using, selling and importing an invention. Considering that a patent has be granted to an AI as an inventor and owner, the questions that should be asked are, how the AI would be able to practice its exclusive rights on the invention? Is the AI enough capable to identify if someone is making, using, selling and importing the technology claimed in its invention? Is the AI capable enough to bring infringement proceedings on an infringing party or individual?

1.13. Patent Licensing: Considering that a patent has be granted to an AI as an inventor and owner. In a scenario where the grated invention is overlapping with another patent and there is a need of licensing the other patent to practice the

invention, is the AI capable enough to negotiate a licensing deal with the other party?

1.14. Patent Infringement Liability: In a scenario where an AI has infringed the exclusive rights of a patent owner, who should be liable for the infringement and responsible to pay the damages? Are the inventors of AI liable for the acts that have been autonomously made by the AI?

Kind regards,
Pratap Devarapalli.