Research ICT Africa

Comment on Draft Impact of Artificial Intelligence on IP Policy

Submitted to: The World Intellectual Property Organization

14 February 2020

Contact Person: Andrew Rens

Email: andrew@aliquidnovi.org

Summary

The draft discussion paper on Intellectual Property and Artificial Intelligence should take into account the importance of development. It should also consider the need for responses in the intellectual property system to the potential of AI systems to fail. The questions on whether intellectual property should apply to AI creations should take into account the likely impact on developing countries and LDCs.

Analysis and Questions

Development

The current draft issues paper does not take sufficient account of the importance of development for activities of WIPO and its members. The Development Agenda, in particular the 45 recommendations adopted by the General Assembly in the session held from September 24 to October 3, 2007 are important for the conversation on AI and IP. Therefore the draft issues paper should pose questions that take into account the recommendations, in particular recommendations 16,17 and 22 in respect of the public domain, exceptions and limitations and the United Nations Development goals. While the recommendation made special reference to the Millennium goals these have been superseded by the Sustainable Development Goals (https://www.un.org/sustainabledevelopment/sustainable-development-goals/).

More generally recommendations 19-28 require consideration of the likely impact of intellectual property rights for the products of AI on developing countries and in particular LDCs including through the creation of barriers to the transfer of technology.

Recommended questions on development

How would the grant of patents for inventions generated by AI affect the preservation of the public domain?

How would the recognition of copyright in works generated by AI affect the preservation of the public domain?

How would the grant of patents for inventions generated by AI affect the flexibilities in international intellectual property agreements, especially those which are of interest to developing countries and LDCs?

How would the recognition of copyright in works generated by AI affect the flexibilities in international intellectual property agreements, especially those which are of interest to developing countries and LDCs?

How would the grant of patents for inventions generated by AI affect the attaintment of the United Nations sustainable development development goals (SDGs)?

Since many machine learning systems consume massive amounts of electrical power how would granting intellectual property rights for the products generated by AI limit the attainment of Sustainable Development Goal 7; ensuring access to affordable, reliable, sustainable and modern energy for all?

How would granting intellectual property rights for the products generated by AI limit the attainment of Sustainable Development Goal 8; promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all?

Dangers and Failures of AI

AI technologies are powerful, but also sometimes exhibit unanticipated behaviour with negative consequences, for example algorithms used to trade on stock exchanges have dramatically increased market volatility and resulted in 'flash crashes'. As AI technologies are put in control of processes such as flying aircraft and conducting surgery the consequences of failure affect human lives and critical systems. Due to the power and speed of AI systems those responsible for the safety of others increasingly need to act quickly. This requires them to modify AI technologies. At times AI researchers will need to replicate AI systems to discover why they failed or behaved unexpectedly. However doing so could potentially infringe intellectual property rights. Where technical protection measures inhibit making changes software in failing AI systems they will have to be circumvented when necessary to protect humans and critical systems.

Recommended Questions on the Dangers and Failures of AI

What limitations on intellectual property rights in AI technologies are necessary to enable responsible persons who are not rights holders to ensure that AI technologies are safe for humans?

Would general limitations to all intellectual property rights in AI technologies to ensure safety suffice or would specific limitations have to be designed specifically ed for patents, designs and copyright?

What exceptions to intellectual property rights in AI technologies are necessary to enable responsible persons who are not rights holders to take remedial action in response to failures of AI which endanger humans or critical systems?

Would general exceptions to all intellectual property rights in AI technologies to enable remedial action to AI suffice or would specific limitations have to be created for patents, designs and copyright?

What limitations on anti-circumvention rules applied to AI technologies are necessary to enable responsible persons who are not rights holders to ensure that AI technologies are safe for humans?

What exceptions to anti-circumvention rules applied to AI technologies are necessary to enable responsible persons who are not rights holders to take remedial action in response to failures of AI which endanger humans or critical systems?

Comments on Selected Questions

Issue 1: Inventorship and Ownership

Draft Question 7 (i)

The public disclosure required by patent law certainly requires that patent applications should disclose that AI was used to generate the technology that is the subject of a patent application since that has a bearing on whether the technology constitutes an invention (as further examined in question 8 and Issue 2). However the debate about the person-hood of AI is a deeply contentious political, philosophical and even religious issue. As it is currently posed the question does not alert the unwary reader that answering it forecloses on highly contentious issues that extend well beyond intellectual property.

Alternative Question on Issue 1:

How should the law require that the use of an AI be disclosed in a patent application?

Should there be a moratorium on permitting an AI application being named as an inventor in a patent application?

Issue 2: Patentable Subject Matter and Patentability Guidelines

To address this issue it is essential that patent applications fully disclose which claims rely on inventions wholly created by AI.

Additional Question on Issue 2:

How can patent applications ensure disclosure of which claims relate to technology wholly or partially generated by AI?

Issue 6: Authorship and Ownership

While AI systems can produce texts, art, music and software the capability to build and use such systems is available only to a small number of actors based primarily in the developed countries. According copyright protection to AI-products could disproportionately benefit those countries while requiring developing countries to expend scarce public resources to enforce those copyrights.

Additional Questions on Issue 6:

If copyright is attributed to AI produced works how will this affect developing countries especially LDCs.

If copyright is attributed to AI produced works how will this affect the ability of authors in developing countries especially LDCs to earn a living?

Issue 7: Infringement and Exceptions

Only a relatively small number of global actors currently have access to very large data sets of copyright works for machine learning. Treating the use of to train AI

applications where that data   represents creative works which are subject to copyright as infringing will require those wishing to use that data to obtain permission, exponentially increasing the cost and difficulty of assembling such datasets and thus of developing the AI applications. This will likely substantially preclude development of AI applications which use such data in developing countries.

Additional Question Issue 7:

What will the effect of treating the use of data subsisting in copyright works without authorization for machine learning as an infringement of copyright be on developing countries?

Issue 9: General Policy Issues

One of the responses to algorithmic bias and opacity is to require that AI systems which without human oversight affect human well being must be open to scrutiny. Although this includes that algorithms be revealed it also includes other measures such as technological measures such testing algorithms with alternative data.

Additional Question for Issue 9:

What limitations and exceptions to intellectual property, including trade secrets, are necessary to enable scrutiny of algorithms that directly affect human well being without human oversight?

Paragraph 21 makes the claim that "[t]he classical IP system may be considered already to afford certain types of protection to data" and goes on to claim that patents protect data relating to inventions, copyright protects data that relate to original literary work and the like. But this reductionist rendering of the different types of intellectual property threatens the crucial distinctions between patent, copyright, design and trade secrets developed separately over centuries.   Inventions are protected not because they can be reduced to data but because they are

inventive, similarly literary works are protected not because they can be represented as data but because they are creative. This paragraph is unhelpful for the analysis and should be removed from the discussion document.

Research ICT Africa

This comment is made by Research ICT Africa (RIA). Research ICT Africa conducts multidisciplinary research on digital governance, policy and regulation that facilitates evidence-based and informed policy making for improved access, use and application of digital technologies for social and economic development in Africa. Research ICT Africa consists of a network of researchers in 20 African countries including Kenya, Nigeria, South Africa and Tunisia.

This comment was prepared and submitted on behalf of RIA by Dr. Andrew Rens, an expert on intellectual property law and property. Dr. Rens qualified as an attorney in South Africa and subsequently earned the degree of Doctor of Judicial Science (SJD) at Duke Law School. He has taught and researched intellectual property and technology law at the University of the Witwatersrand, the University of Cape Town, and at Duke Law School. He has been a fellow at the Center for Internet and Society at Stanford University, Research Fellow at the Internet Governance Lab at American University and is currently Senior Fellow at RIA.

409 The Studios

Old Castle Brewery
6 Beach Road
Woodstock, 7925
Cape Town, South Africa
Phone: +27 21 447 6332
Fax: +27 21 447 9529

www.researchictafrica.net