IDENTIFYING COPING STRATEGIES TRENDS WITH THE ML (MACHINE LEARNING) THREATS TO INTELLECTUAL PROPERTY

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Abstract: *This article examines high-level research in the field of intellectual property (IP), with a particular focus on emerging trends and potential threats posed by machine learning technologies in selected legal environments. Using a high-level conceptual analysis, it explores the design of legal frameworks and regulatory responses in the European Union, the United Kingdom, and the United States, with a particular focus on preserving copyright and addressing the challenges posed by the paradigm shift in technological advancement through legal system responses based on a binary division between proactive and reactive solutions in each legal system in a comparative manner. The paper addresses two fundamental challenges: first, the adaptation of existing intellectual property laws in different territories to the rapid development of machine learning, and second, the proficiency of proactive and reactive solutions in overcoming these obstacles. The main ambition of this paper is to develop a conceptual framework that defines the legislative landscape in correlation with technological advances in IP and ML, highlighting dominant trends and existing measures. The main contribution of this paper is that it can highlight these trends and outline strategies for deeper analysis and coordinated responses, both academic and regulatory. Through this, the paper seeks to facilitate a more informed and harmonious integration of machine learning innovations into existing IP legal frameworks, balancing positives and negatives.*

1. Introduction to Intellectual Property Threats

Today, AI is receiving increasing attention in society and academia because it is changing the paradigm of how work is done and how the law is made to address these new challenges.[1] The emergence of newly developed platforms operating on generative principles, such as ChatGPT, DALL·E, or Stability Engine, intensifies the challenges within the realm of intellectual property law. New technologies may require new enforcement and support mechanisms in order to balance all the rights at stake, as they pose new challenges for the intellectual property system.[2] The paper focuses on how IP and machine learning stakeholders are developing mechanisms to address new challenges. It explores reactive strategies, such as administrative decisions, and proactive approaches, including soft and hard laws. The goal of this paper is to explain a framework in which we provide an overview of possible responses and categorize them based on this distinction with an explana-

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[1] Lanquist/Rota, Intellectual Property Legal Issues Impacting Artificial Intelligence, 11.04.2023 https://www.bakerdonelson.com/intellectual-property-legal-issues-impacting-artificial-intelligence.

[2] Barton, Adapting the Intellectual Property System to New Technologies, Global Dimensions of Intellectual Property Rights in Science and Technology (1993) 450 (256).

tion of what machine learning ("**ML**") is. In the next section we distinguish the basic types of ML allowing us to proceed smoothly into a description of a deeper categorization of coping strategies.

1.1. Understanding Machine Learning

In this chapter, we cover the basics of machine learning. The literature agrees that machine learning is a subset of artificial intelligence.[3] The primary objective of machine learning is to develop models that can make predictions or decisions without being explicitly prepared for a particular scenario, so it uses statistical techniques to give the model the ability to extract variables or patterns from the data provided and use them in similar cases in the future.[4]

Traditionally, we distinguish three main categories of machine learning, and their common variable is providing some type of model feedback. The first is supervised learning, in which inputs and their desired outputs are provided to the model and the algorithm learns to map the inputs to the training data.[5] The second is unsupervised learning, in which the model is presented with only the input data without the desired output, and the model learns to identify patterns or structure in the data.[6] The last of the big three methods is reinforcement learning, where the model is trained to make decisions or predictions based on feedback from the test environment while maximizing the goal using a reward signal.[7]

2.   Coping strategies for ML in intellectual property law

In this chapter, we will delve deeper into coping strategies, starting with a basic structure of how we can systematize coping strategies in three simple layers. The most important layer is the definition of a response, the main question is whether the response is proactive, so the agent is trying to create an appropriate legal framework for a practical problem. On the other hand, we have a reactive response, where the relevant authorities, such as courts, tribunals, or administrative bodies, react to a possible violation of the law.[8] To explain the second level, we should distinguish between two sub-categories of proactive approach, hard law and soft law. In this context, hard law is characterised by its enforceability, which is usually represented by various legally enforceable rules. On the other hand, soft law refers to rules and principles that are declarative rather than enforceable. This category of soft law can be further subdivided into state-like and industry-like laws, reflecting their origin.

To conclude this structure, we argue that in the field of the rapid development of artificial intelligence we find it very difficult to provide an up-to-date and exhaustive list of coping strategies. We focus on identifying main trends within the selected jurisdictions. On this mapping of coping strategies, it should be noted that there are many approaches to defining them, and this is just one of many, such as state or non-state led initiatives by Schmitt[9] or the Council of Europe's list of AI initiatives with many variables.[10]

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[3]   AWAD/KHANNA, Machine Learning, in *Awad/Khanna* (Hrsg), Efficient Learning Machines: Theories, Concepts, and Applications for Engineers and System Designers (2015) 1–18 (1).

[4]   EL BOUCHEFRY/SOUZA, DE, Learning in Big Data: Introduction to Machine Learning, in *Škoda/Adam* (Hrsg), Knowledge Discovery in Big Data from Astronomy and Earth Observation (2020) 225–249 (227).

[5]   KEITA, Classification in Machine Learning: A Guide for Beginners, 09.2022 https://www.datacamp.com/blog/classification-machine-learning.

[6]   SODHI/AWASTHI/SHARMA, Introduction to Machine Learning and Its Basic Application in Python, Proceedings of 10th International Conference on Digital Strategies for Organizational Success 2019, 1354–1357 (1358).

[7]   SODHI/AWASTHI/SHARMA, Proceedings of 10th International Conference on Digital Strategies for Organizational Success 2019, 1354–1357 (1358).

[8]   SCHWARZER/LUSZCZYNSKA, Reactive, anticipatory, preventive, and proactive coping: a theoretical distinction, The Prevention Researcher 2008, 22–25 (23).

[9]   SCHMITT, Mapping global AI governance: a nascent regime in a fragmented landscape, AI and Ethics 2022, 303–314 (305).

[10]   AI initiatives – Artificial Intelligence – www.coe.int, https://www.coe.int/en/web/artificial-intelligence/national-initiatives.
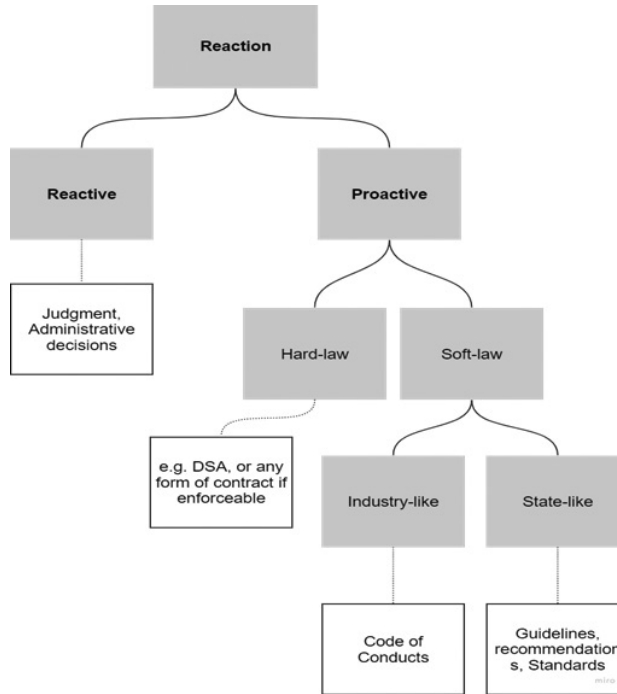
Figure 1: Structure of the reactions[11]

We also find it necessary to clarify the actual coping strategies aspect of the law in order to work at a sufficiently expert level with individual responses to the current challenges associated with machine learning. Artificial intelligence itself represents a rather broad field focused on the development of intelligent systems. The term artificial intelligence itself having the character of an umbrella term, as it hides several additional sub-categories underneath it[12], used when discussing the model of artificial intelligence itself. Perhaps one of the most prominent further areas is the field of machine learning[13] which emerges as a specific but integral part of AI itself, categorically it is a narrower term[14] which has several subcategories of techniques and methodologies to work with such a model as we have mentioned above.[15]

The differentiation of the concept is important to clarify and determine the individual coping strategies of AI challenges. In many cases is usage of AI is simply identified with the term of machine learning[16] however, given that machine learning itself is a significant sub-category of AI[17] the applied rules can usually touch on such a model as well. ML itself poses specific challenges to IP law to which the legal system as a whole responds, but in some instances using less precise terminology.

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11 PALAŠTA, Structure of coping reactions
12 JUTEL et al, The artificial intelligence (AI) revolution: How important for scientific work and its reliable sharing, Allergy 2023, 2085–2088 (2086).
13 KÜHL et al, Artificial intelligence and machine learning, Electronic Markets 2022, 2235–2244 (2235).
14 JUTEL et al, Allergy 2023, 2085–2088 (2086).
15 AWAD/KHANNA, Machine Learning 1–18 (1).
16 ÅGERFALK, Artificial intelligence as digital agency, European Journal of Information Systems 2020, 1–8 (2).
17 AWAD/KHANNA, Machine Learning 1–18 (1).

2.1. Jurisdictional overview and global level

In what follows, we seek to provide a more comprehensive view of ML and coping strategies by dividing them into three main categories: the Global View, the US View, the UK&EU View. We have chosen these jurisdictions to better understand the rationale behind some of the measures. As can be seen, only the global view stands out from the traditional division, but the main reason is that many companies operating around the world are creating frameworks that can be assigned to none of the selected jurisdictions.

2.1.1. Global View

In the current overview of global challenges, we can see many initiatives evolving rapidly from year to year, and regulators and other stakeholders are creating many regulatory initiatives to regulate or assist in the regulation of AI, with a particular focus on privacy and human rights.[18] International organizations and national bodies are the biggest producers of such initiatives, followed by the private sector, academia and multi-stakeholder initiatives.[19] Industry-like governance of AI issues, including intellectual property perspectives on machine learning models, can be seen as fragmented but still influential.[20] One of the many reasons why non-state standards play a critical role in guiding and responding to new technologies is that these technologies are accompanied by risk and uncertainty.[21] Especially if we can't describe exactly what's happening in some part of machine learning, especially in the part of neural networks that are sometimes referred to as black boxes.[22] This subchapter is by no means intended to provide a comprehensive and exhaustive overview of the current rules on the intersection of ML and IP law. The main suggestion is to draw attention to some aspects of the strategies of balancing law with new technologies.

2.1.1.1. Industry-like soft law

The year 2017 can be considered a pivotal year in which AI-related initiatives experienced exponential growth compared to previous years.[23] Major technological companies have begun to create bodies for the creation of basic frameworks that could help them shape the AI governance agenda within and between corporations.[24] One of the more influential is the Partnership on AI, founded in 2016, but this multi-platform organization did not explicitly addressed the IP challenges associated with developing a ML or AI model; rather, it has focused on rigorously developing resources, recommendations, and best practices for AI.[25] Another interesting part of coping with AI challenges is the Microsoft Aether committee, which was completely dissolved in March 2023,[26] but published the Microsoft Responsible AI standard,[27] which, however, does not address IP issues.

Last but not least, IBM has established AI Ethics Board[28] which in June 2023 published a publication about foundation models, which identifies the risks associated with the inputs and outputs of foundation models. In terms of inputs, they identify risk associated with copyright and other IP issues that were amplified during the training and tuning phase. While a new issue arose when copyright or other IP information can be disclosed

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[18]   AI initiatives – Artificial Intelligence – www.coe.int, https://www.coe.int/en/web/artificial-intelligence/national-initiatives.

[19]   AI initiatives – Artificial Intelligence – www.coe.int, https://www.coe.int/en/web/artificial-intelligence/national-initiatives.

[20]   VEALE/MATUS/GORWA, AI and Global Governance: Modalities, Rationales, Tensions, Annual Review of Law and Social Science 2023, 255–275 (259).

[21]   GOANTA et al, Regulation and NLP (RegNLP): Taming Large Language Models, , 3.

[22]   FERREIRA et al, Looking Inside the Black-Box: Logic-based Explanations for Neural Networks, Proceedings of the Nineteenth International Conference on Principles of Knowledge Representation and Reasoning, 07.2022, 432.

[23]   AI initiatives – Artificial Intelligence – www.coe.int, https://www.coe.int/en/web/artificial-intelligence/national-initiatives.

[24]   VEALE/MATUS/GORWA, Annual Review of Law and Social Science 2023, 255–275 (258).

[25]   Our Work, https://partnershiponai.org/work/.

[26]   BELLAN, Microsoft lays off an ethical AI team as it doubles down on OpenAI | TechCrunch, 14.03.2023 https://shorturl.at/jovFZ.

[27]   Microsoft Responsible AI Standard v2 General Requirements, 06.2022.

[28]   AI Ethics | IBM, https://www.ibm.com/impact/ai-ethics.

as part of a prompt sent to the model, copyright infringement issues may also arise, including adherence to open-source licensing agreements. Regarding AI outputs and regulatory compliance, new challenges emerge in identifying the creators of downstream and open-source models, ownership of AI-generated content, and clarifying IP rights related to such content..[29]

As we see in IBM publication, they did not provide an exact solution to the problem, but rather highlighted where the problem might lie and recommended some management options to mitigate the risk. According to the table of coping strategies, we can classify these documents of big tech companies in industry-like soft law, because their outputs are more informative, usually concerning fundamental and basic issues, sometimes referring to specific legal problems, as in the IBM publication. In conclusion: "*The principles established by industry ethics councils have been criticized for being vague and practically meaningless, with no enforcement or mechanisms to demonstrate compliance*"[30] Altogether, the classic *cui bono* question needs to be answered, as these bodies have been set up by companies that have a vested interest in developing models that could be based on machine learning or other techniques to make them a profit.

2.1.1.2. State-like soft law

For the purposes of this Article, the term state-like soft law is defined broadly to include international organizations with or without memberships of national states. Within this category, we will look at international organizations that are developing various soft law tools that address ML&IP issues, such as UNESCO, which are difficult to define within a single jurisdiction but impact many. We will also look at IEEE standards.

International organizations started around similar time to regulate as others stakeholder with creating standards, guideline or recommendations, which includes for example UNESCO issued Recommendation on the Ethics of Artificial Intelligence[31] which explicitly states that member states should encourage research on the intersection between AI and IP, with a focus on the protection of IP of works created by AI. It should also assess how AI affects the rights of IP owners whose works are used in AI research, development, training or implementation.[32]

International organization focusing on standardization the Institute of Electrical and Electronics Engineers (IEEE) issued Position Statement on AI where they directly address the unique challenge of AI for IP laws, because they assume that AI can technically potentially violate IP as well as generate outputs that are worthy of additional IP protection.[33] The most recent update to the definition of an AI system from the OECD's perspective as a state-like soft law, member countries in November 2023. This revised definition includes several changes to reflect advances in AI technology and to maintain the relevance and technical accuracy of the definition.[34]

2.1.1.3. Hard law from B2B and B2C perspective

In this global overview, we will examine how IP rights are regulated within the market through various enforceable contracts. Our primary focus is on B2B relationships during the development of ML models. Secondly, we aim to identify the main reactions to the diffusion of IP in the so-called B2C domain during

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[29] Foundation models: Opportunities, risks and mitigations, 06.2023.

[30] VEALE/MATUS/GORWA, Annual Review of Law and Social Science 2023, 255–275 (258).

[31] Recommendation on the Ethics of Artificial Intelligence, 23.11.2021 https://unesdoc.unesco.org/ark:/48223/pf0000381137/PDF/381137eng.pdf.multi.

[32] Recommendation on the Ethics of Artificial Intelligence, 23.11.2021 https://unesdoc.unesco.org/ark:/48223/pf0000381137/PDF/381137eng.pdf.multi.

[33] IEEE Position Statement Artificial Intelligence.

[34] Artificial intelligence, https://www.oecd.org/digital/artificial-intelligence.

the deployment of some ML-based AI models. Stakeholders such as users, AI model owners, dataset owners could play a role in the dissemination of IP rights associated with output.

From a B2B perspective, as technology evolves, we see a variety of stakeholders offering services. On one side, some entities offer the capacity to create their own ML models while using software services provided by companies specialized in the field of ML and natural language processing. On the other, there are platforms that distribute these applications. A critical element in this digital platform ecosystem is the degree of access that platform owners grant to potential partners regarding their platform interface.[35] This access is crucial because control over the platform technology gives platform owners the power to exclude partners.[36]

In the field of ML, the development of neural networks is often associated with high computational costs.[37] Therefore, large-scale pre-trained models (PTMs) have begun to be used in the development of ML and adapted for specific downstream applications.[38] One of many examples are ecosystems such as Hugging Face or Deepset, which provide ML services and PTMs packages typically provide more components than traditional software package registries.[39] In the case of Hugging Face, there are a number of IP issues that they have chosen to address in their Terms of Use. The provider retains all intellectual property rights related to its services, including any enhancements.[40] Users may not use or modify any of the provider's materials without express written permission, and also clarify that any rights not expressly granted are reserved by the provider.[41] What is even more interesting is the use of user feedback and data, if a user provides feedback, it grants a license to use and commercialize that, also the provider can use the user usage data to improve the services.[42] IP rights thus belong mainly to the providers of such services.

In the area of digital platforms such as AppStore, Google Play or other services, according to some predictions, it seems likely that the global governance of AI will be largely connected to the governance of platforms.[43] Apple Developer Program License Agreement does not yet specifically address intellectual property rights in machine learning,[44] nor does the Google Play Developer Distribution Agreement.[45] They typically use a traditional method to regulate IP rights between app developers and digital platforms, without addressing AI or ML issues in the agreements.

Another area called B2C, exemplified OpenAI and their ChatGPT model, which is probably the most well-known part of AI services for the general public, as they currently have around 180 million users.[46] OpenAI govern its relationship with the Terms of Use in the manner that the content that constitutes input and output from the AI Model does to the extent permitted by the applicable law is owned by the user and Open AI assigns all rights and interests, if any. The user is liable for any violation of any applicable law relating to the content.[47] Feedback provided by users may be used for the purposes of Open AI without any restriction or compensation to the user.[48] And also, the content itself may be used to improve the services, but users may

[35] CHEN et al, Governance and Design of Digital Platforms: A Review and Future Research Directions on a Meta-Organization, Journal of Management 2022, 147–184 (162).

[36] CHEN et al, Journal of Management 2022, 147–184 (162).

[37] SIDDEGOWDA et al, Neural Network Quantization with AI Model Efficiency Toolkit (AIMET), 20.01.2022, 2.

[38] JIANG et al, An Empirical Study of Pre-Trained Model Reuse in the Hugging Face Deep Learning Model Registry, 04.03.2023, 1.

[39] JIANG et al, An Empirical Study of Pre-Trained Model Reuse in the Hugging Face Deep Learning Model Registry, 04.03.2023, 2.

[40] Terms of Service – Hugging Face, https://huggingface.co/terms-of-service.

[41] Terms of Service – Hugging Face, https://huggingface.co/terms-of-service.

[42] Terms of Service – Hugging Face, https://huggingface.co/terms-of-service.

[43] VEALE/MATUS/GORWA, Annual Review of Law and Social Science 2023, 255–275 (260).

[44] Apple Developer Program License Agreement.

[45] Google Play Developer Distribution Agreement, 29.08.2023 https://play.google.com/intl/ALL_uk/about/developer-distribution-agreement.html.

[46] DUARTE, Number of ChatGPT Users (Dec 2023), 30.03.2023 https://explodingtopics.com/blog/chatgpt-users.

[47] Terms of use, https://openai.com/policies/terms-of-use.

[48] Terms of use, https://openai.com/policies/terms-of-use.

opt out. OpenAI also makes it clear that it owns all rights, title and interest in and to the service.[49] Open AI's Terms of Use, in contrast to Hugging Face, more clearly balance IP rights between users and providers, aligning better with machine learning specifics, while Hugging Face retains many IP rights, often overlooking users' rights.

It is important to note that new license types are emerging for AI, in particular Responsible AI licenses (RAIL) with four main license types Responsible AI Pubs Licenses, Responsible AI End-User License, Re-sponsible AI Source Code License, and BigScience Open RAIL-M License.[50]

2.1.2. US View

What's really interesting to observe are the US initiatives in the field of AI, as this country is home to some of the biggest companies in the field of AI. The United States was the global leader in the production of AI initiatives with 85 frameworks between 2016 and 2022, and interestingly, the private sector was the largest issuer of such frameworks, as opposed to the total number of such initiatives by international organizations and national bodies, which were the largest producers of such frameworks globally.[51]

2.1.2.1. Reactive reactions

The decisions of the US courts play a key role in shaping the first response to potential IP infringement, the reason why the decisions of these courts are important is that the US has the largest share of AI companies in the world, and therefore there is a higher probability of IP rights infringement.[52] Based on website chatgptiseatingtheworld.com there are three major court decision which deals with the AI and IP, and according to them, there are several more lawsuits.[53]

First of all, there is a case Andersen v. Stability AI[54], where they challenge various aspects of stable diffusion ML model and cooperation within the market. The main IP issue was direct copyright infringement, which was dismissed against Stability AI, but was granted in a motion to dismiss against DeviantArt and Midjourney. In a dismissed vicarious copyright infringement claim the plaintiffs could not sufficiently demonstrate that the defendants had the right and ability to control the infringing activity (the use of copyrighted works in AI software) and that they directly financially benefited from that infringement. Once again, claims based on DMCA infringement were also asserted here, but were dismissed.

In another significant case Kadrey v. Meta[55] the defendant argued that Meta's LLaMA Language Models is a derivative work, also that LLaMA Outputs are infringing derivative works and constitute vicarious copyright infringement, and that LLaMA violates certain sections of the DMCA. All of these claims were rejected on the basis that LLaMA's models cannot be considered a redraft or adaptation of the original book, and thus cannot be considered a derivative work. The other two claims lacked supporting facts or specific allegations.[56]

To close this part we will delve into fair use context in are of training of AI, in the case Thomson Reuters v. Ross Intelligence[57] main problem arise around determining if Ross's AI's use of Westlaw's headnotes for its

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[49] Terms of use, https://openai.com/policies/terms-of-use.

[50] AI Licenses, https://www.licenses.ai/ai-licenses.

[51] AI initiatives – Artificial Intelligence – www.coe.int, https://www.coe.int/en/web/artificial-intelligence/national-initiatives.

[52] Worldwide: AI companies major economies 2023, https://www.statista.com/statistics/1413456/major-economies-ai-companies-worldwide/.

[53] Also, after finishing this article, a interesting case was filed in New York: The New York Times Co. v. Microsoft Corp., OpenAI, No. 1:23-cv-11195, (S.D.N.Y. 27.12.2023).

[54] Andersen v. Stability AI Ltd., No. 23-cv-00201-WHO, (N.D. Cal. 30.10.2023).

[55] Kadrey v. Meta Platforms, Inc., No. 23-cv-03417-VC, (N.D. Cal. 20.11.2023).

[56] Judge Chhabria dismisses most of Kadrey's claims v. Meta in AI lawsuit, 21.11.2023 https://chatgptiseatingtheworld.com/2023/11/21/judge-chhabria-dismisses-most-of-kadreys-claims-v-meta/.

[57] Thomson Reuters Enter. Ctr. GmbH v. Ross Intelligence Inc., No. 1:20-cv-00613-SB, (D. Del. 25.09.2023)

learning process counts as a transformative application (which might be allowed under fair use laws) or just a duplication of Westlaw's original material (which probably wouldn't be considered fair use). As in every case in this section, no judgment was delivered, but the trial proceeded as summary judgment could not be granted.[58]

2.1.2.2. Proactive reactions

In terms of proactive reactions to challenges, the US is a vibrant market for AI technologies, but in terms of hard law, there are many agreements between relevant stakeholders, such as OpenAI, and their users, and some of these have been described in subsection 2.1.1.3. Hard law from a B2B and B2C perspective, as many of these agreements also apply to US View, as many of these companies are based in the US but operate globally.

From legal perspective of hard law there is congress bill National Artificial Intelligence Initiative Act[59] which establish organization for National AI Initiative, but only merely mentioned IP issues.[60] The Congressional Research Service has issued a research report that addresses many of the intellectual property issues related to ML, with a concluding note that Congress may consider whether any of the copyright issues raised by generative AI programs require amendments to the Copyright Act or other legislation.[61] The White House seems to be more proactive than Congress and has issued Executive Order on Maintaining American Leadership in Artificial Intelligence[62] and Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence[63] while only the second, contains a few points to the effect that the commercialization of new technologies by start-ups and small businesses must be increased with the help of intellectual property assistance. The latter also confirms that new issues in the field of intellectual property need to be addressed. The U.S. Copyright Office has issued a policy statement stating that, in the Office's view, it is well established that copyright can only protect material that is the product of human creativity.[64]

In terms of soft law, there are many industry-like initiatives in the states, which are covered in Section 2.1.1.1. Industry-like soft law. There are institutes in the state-like soft law field, such as the National Institute of Standards and Technology (NIST) and the National Science and Technology Council, but for the most part, they typically focus on a different area of the machine learning challenges, rather than on IP concerns. The IEEE is based in the U.S. so state-like soft law in the global view apply to an appropriate extent here.

2.1.3. EU&UK View

As the EU and the UK share a substantial history in the development of the IP rights legal framework up to Brexit, we will address them together.

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58 Judge Bibas issues 1st ruling on how fair use applies in AI training, after Andy Warhol Foundation decision, 13.10.2023 https://chatgptiseatingtheworld.com/2023/10/13/judge-bibas-issues-1st-ruling-on-how-fair-use-applies-in-ai-training-after-andy-warhol-foundation-decision/.

59 H.R.6216 – National Artificial Intelligence Initiative Act of 2020. 116th Congress.

60 R.6216 – National Artificial Intelligence Initiative Act of 2020. 116th Congress, Sec. 2(2).

61 Generative Artificial Intelligence and Copyright Law, 29.09.2023.

62 Executive Order on Maintaining American Leadership in Artificial Intelligence – The White House, 2019 https://trumpwhitehouse.archives.gov/presidential-actions/executive-order-maintaining-american-leadership-artificial-intelligence/.

63 Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence, 30.10.2023 https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/.

64 Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 16.03.2023.

2.1.3.1. Reactive reactions

There are two significant EPO decisions stating that AI cannot be considered as an inventor because the European Patent Office (EPO) has ruled that in order to determine the inventor for a European patent application, the inventor must have legal personality.[65] There is an ongoing copyright lawsuit in the UK between Getty Images and Stability AI[66], which mirrors the situation in the US.

2.1.3.2. Proactive reactions

Both EU and UK are very active in are of AI initiatives in general also in specific area for IP-posed changes. In terms of state-like soft law, the UK Government has issued a government code of practice on copyright and AI, which aims to clarify the relationship between IP and generative AI, make data mining licences more accessible, and introduce protections for rights holders.[67] In total, there are more than 29 initiatives by their national authorities dealing with artificial intelligence, but as usual, most of them focus on the concepts of human rights, accountability and privacy.[68] In the EU, there are more soft law legal frameworks that deal directly with IP issues, even addressing machine learning more directly, one is the EUIPO study on the impact of artificial intelligence on copyright and design infringement and enforcement[69] and the Making the most of the EU's innovative potential study: An Intellectual Property Action Plan to support EU renewal and resilience, published by the European Commission.[70] European Parliament also issued report on intellectual property rights for the development of artificial intelligence technologies.[71]

In terms of hard law, we can see some active responses in EU and UK, including discussions in the UK jurisdiction about introducing a copyright and database exemption that would allow text and data mining for any purpose, including commercial use, but it was strongly opposed by the creative industries.[72] There is already a political consensus in the EU on an AI Act that will comprehensively address the risk of AI to society, and Europe is creating a legal framework that should be ready for the new era of AI, for example data mining exemption as regulated by the DSM Directive. On the enforceable agreements side, the global view is more robust. In terms of industry-like soft law, there are several initiatives that deal with the regulation of AI, such as SAP's Principles for Artificial Intelligence, but as in this SAP case, IP issues are not frequently addressed by them.[73]

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[65]   THALER, S. L. (2022). Food Container. European Patent Office. Patent No. EP3564144. THALER, S. L. (2022). Devices and Methods for Attracting Enhanced Attention. European Patent Office. Patent No. EP3563896.

[66]   Getty Images (US), Inc. v. Stability AI Ltd., the High Court of Justice in London (Chancery Division), No. IL-2023-000007.

[67]   The government's code of practice on copyright and AI, https://www.gov.uk/guidance/the-governments-code-of-practice-on-copyright-and-ai.

[68]   AI initiatives – Artificial Intelligence – www.coe.int, https://www.coe.int/en/web/artificial-intelligence/national-initiatives.

[69]   European Union Intellectual Property Office., Study on the impact of artificial intelligence on the infringement and enforcement of copyright and designs. (2022).

[70]   Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of The Regions Making the most of the EU's innovative potential An intellectual property action plan to support the EU's recovery and resilience.

[71]   Report on intellectual property rights for the development of artificial intelligence technologies, https://www.europarl.europa.eu/doceo/document/A-9-2020-0176_EN.html.

[72]   ARMSTRONG, Generative AI and intellectual property rights—the UK government's position, https://www.rpc.co.uk/perspectives/ip/generative-ai-and-intellectual-property-rights-the-uk-governments-position/.

[73]   SAP's Guiding Principles for Artificial Intelligence, https://www.sap.com/documents/2018/09/940c6047-1c7d-0010-87a3-c30de2ffd8ff.html.

3. Conclusion

The present article on coping strategies for machine learning in the context of IP law challenges provides insight into and exposes the evolving landscape of AI regulation, including machine learning. The article systematically categorizes coping strategies into proactive and reactive responses, further dividing proactive approaches into hard law and soft law, and soft law into sectoral and state law. It illustrates and seeks to clarify each approach based primarily on a global perspective and then from the perspective of the US, UK&EU. In terms of the global overview, we conclude that there is a prevalent tendency to create soft-law remedies to address IP challenges, but these remedies are usually not binding and are even criticized for their vagueness. Probably the major regulators are contractual relationships between different entities working with different services within machine learning and artificial intelligence, bringing a clearer division of rights between the various entities. From the perspective of the US, which is addressing this challenge mainly through a court decision, the response is usually led by industry, which is more involved in shaping the regulatory environment than national authorities. From the perspective of the UK and the European Union, the regulatory framework is more state-led, producing diametrically more AI initiatives and also dealing with more complex regulatory relationships within AI, such as the AI Act. A more comprehensive legal framework for dealing with IP issues may be in the pipeline in the US, for example, while at present IP issues are mainly governed by contractual arrangements.

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