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WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal provide dedicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

ARTIFICIAL INTELLIGENCE AND INTELLECTUAL PROPERTY RIGHTS: NAVIGATING LEGAL CHALLENGES IN THE AGE OF AI

AUTHORED BY - MALINI JAGGI¹

Abstract:

The rapid growth of artificial intelligence (AI) has profoundly revolutionized several industries, resulting in unparalleled creativity and efficiency. However, technological advancements pose serious challenges to the existing Intellectual Property Rights (IPR) system. This paper delves into the intricate relationship between AI and IPR, focusing on recent legal disputes and policy developments. Notably, it examines high-profile cases where major publishers have accused AI firms of copyright violations, highlighting the legal tensions between content creators and AI developers. Additionally, the paper analyzes recent court rulings that have set precedents in AI-related copyright infringement, offering insights into how these decisions may influence future litigation and AI innovation. The discussion extends to legislative efforts, such as the UK government's proposed copyright law changes favoring AI companies, and the ensuing debates on balancing technological progress with the protection of creative works. By exploring these contemporary issues, the paper aims to provide a comprehensive understanding of the evolving legal landscape at the intersection of AI and intellectual property, offering recommendations for policymakers, legal practitioners, and stakeholders in the AI and creative industries.

Keywords:

1. Artificial Intelligence (AI)
2. Intellectual Property Rights (IPR)
3. Copyright Law
4. Fair Use Doctrine
5. Human Authorship
6. AI-Generated Works

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Introduction

Artificial Intelligence (AI) is no longer a futuristic concept but a present-day reality that permeates numerous facets of our lives. From self-driving cars and personalized advertising to medical diagnoses and sophisticated financial modelling, AI's capabilities are expanding exponentially. This transformative growth, however, brings forth critical questions concerning intellectual property rights (IPR). The core issue revolves around how existing copyright laws apply to AI-generated content and the use of copyrighted material in training AI models. Generative AI tools, such as those capable of producing art, music, software, and even patentable inventions, are pushing the boundaries of creativity and challenging traditional notions of authorship and ownership. The tension lies between fostering innovation in the AI sector by allowing access to data and protecting the rights of content creators who fear the devaluation of their work through unauthorized use.

In 2025, AI's role has evolved beyond a mere tool it is now a driving force reshaping how intellectual property is created, protected, and enforced. AI agents can now converse with customers and plan subsequent actions, demonstrating enhanced intelligence and reasoning capabilities. This necessitates a re-evaluation of legal frameworks to address the unique challenges presented by AI-driven innovation. This paper aims to explore this intricate balance, examining recent legal cases, policy changes, and the overall impact on the AI and creative industries. It will delve into the complexities of defining authorship, determining originality, and navigating the ethical considerations that arise from AI's increasing role in intellectual property creation and management. Ultimately, this research seeks to provide insights and recommendations for policymakers, legal professionals, and stakeholders to foster a balanced and sustainable ecosystem where AI innovation and intellectual property rights can coexist harmoniously.

Copyright Infringement Lawsuits Against AI Companies

A wave of copyright infringement lawsuits against AI companies has emerged, highlighting the growing concerns of content creators. These lawsuits generally center on the unauthorized use of copyrighted materials to train AI models.

- **Cohere Lawsuit:** A group of news publishers, including Condé Nast, Forbes Media, and The Guardian, sued AI firm Cohere for allegedly using over 4,000 copyrighted works to train its large language model. The publishers claim that Cohere not only used

their content without permission but also displayed substantial portions of articles, bypassing visits to their websites. Additionally, Cohere is accused of trademark infringement by producing fabricated content under the publishers' names.²

- **Thomson Reuters V. ROSS Intelligence:** In *Thomson Reuters Enterprise Centre GMBH v. ROSS Intelligence Inc.*, Thomson Reuters, the owner of Westlaw, sued Ross for using Westlaw headnotes to train its AI-driven legal research engine. The court ruled in favor of Thomson Reuters, stating that Ross's use was not fair use because it built a competing product.³
- **Andersen V. Stability AI Ltd.:** Artists have accused Stability AI of copyright infringement for training their models using billions of images sourced online without explicit permission. The central question is whether datasets composed of copyrighted images can be considered infringing works. Artists won a key ruling in this case as Judge William Orrick denied a motion to dismiss copyright infringement claims against Stability AI and MidJourney.⁴
- **Getty Images V. Stability AI:** This case concerns copyright, database right, and trademark infringement related to the use of Getty's image library to train the Stable Diffusion text-to-image model. The English High Court is considering these issues.⁵
- **Authors Guild V. OpenAI:** This lawsuit alleges copyright infringement on a massive scale, accusing OpenAI of using authors' works without permission to train its large language models. The Authors Guild argues that this unauthorized use has devalued their works and harmed the market for books.⁶

In India, similar concerns have arisen as the country grapples with the implications of AI technologies on copyright law. A notable case is the ongoing litigation involving OpenAI and various Indian media organizations.

The news agency ANI initiated a lawsuit against OpenAI, alleging that its AI systems, including ChatGPT, scrape copyrighted content from their publications without authorization. This case has attracted significant attention as it highlights the tension between technological advancement and copyright protection in India.

- **ANI V. OpenAI:** Several leading Indian media organizations, along with ANI, have accused OpenAI of unlawfully using their content to train its models. They claim that

² Advance Local Media LLC v. Cohere, Inc., 1:25-cv-01305

³ Thomson Reuters Enterprise Centre GmbH v. Ross Intelligence Inc. No. 1:20-CV-613-SB (D. Del. Feb. 11, 2025)

⁴ "No. 23-cv-00201-WHO" *Andersen v. Stability AI Ltd.*, 700 F. Supp. 3d 853, (N.D. Cal. 2023)

⁵ Getty Images (US), Inc. v. Stability AI, Inc., 1:23-cv-00135-JLH

⁶ Authors Guild v. OpenAI Inc., 1:23-cv-08292, (S.D.N.Y.)

ChatGPT generates responses closely resembling their original works without permission, and ANI alleges that OpenAI falsely attributed responses to its name, harming its reputation and news credibility. OpenAI, however, argues that it relies only on publicly available data and follows fair use principles. The Delhi High Court's ruling in this case could set a crucial precedent for AI and copyright law in India.⁷

- **RAGHAV Case:** Another notable instance involves an AI system named RAGHAV, which was mistakenly recognized by India's Copyright Office as a co-author of an artistic work. Initially, when Ankit Sahni filed an application listing RAGHAV as the sole author, it was rejected due to the requirement for human authorship under Indian law. However, subsequent discussions led to a temporary registration that raised questions about the legal status of AI as an author under copyright law. This case is particularly significant as it could influence future cases involving AI-generated works in India.⁸
- **Anil Kapoor V. Simply Life India:** In this landmark case, the Indian courts issued an injunction against the use of artificial intelligence to create fake or morphed content for commercial purposes, emphasizing the protection of personality rights and individual integrity in media representation. This ruling reflects a growing awareness among Indian judiciary bodies regarding the implications of AI on intellectual property and personal rights.⁹
- **Daniel Matera v. Google Inc.:** Although primarily a U.S.-based case, it has implications for Indian law as well; it established that remedial measures against copyright infringement must be broadly interpreted to include new technologies like AI tools that can potentially infringe upon existing copyrights.¹⁰

As these cases unfold, they underscore the urgent need for legislative reforms in India's Copyright Act of 1957 to address contemporary challenges posed by AI technologies. Currently, Indian copyright law is heavily right-holder centric and does not adequately accommodate the complexities introduced by generative AI systems that rely on vast datasets for training purposes.

The ongoing litigation surrounding OpenAI and other similar cases may compel lawmakers to reconsider existing frameworks and introduce provisions that balance

⁷ ANIMEDIA PVT LTD V. OPEN AI INC & ANR. CS(COMM) 1028/2024; ONGING MATTER IN THE HIGH COURT OF DELHI AT NEW DELHI

⁸ Dairy no. 13646/2020-CO/A; RoC no. A-135120/2020

⁹ Mr Anil Kapoor v. Simply Life India and Ors, CS(COMM) 652/2023 and I.A. 18237/2023-18243/2023

¹⁰ Daniel Matera v. Google Inc. Case No. 15-CV-04062-LHK 09-23-2016

innovation with protection for creators' rights. As India positions itself as a leader in AI development, how these legal battles are resolved will likely shape both domestic policy and international discourse on copyright law in relation to artificial intelligence technologies.

Judicial Interpretation of AI and Copyright Law

Recent court decisions provide crucial insights into how copyright law is being interpreted in the context of AI. In India, while there are fewer direct precedents, the ongoing cases and legal discussions offer valuable perspectives on how AI and copyright law intersect.

- **Fair Use Doctrine:** The fair use doctrine, which allows the use of copyrighted material under certain circumstances, has been a key point of contention in AI copyright cases globally. In India, the Copyright Act of 1957 lists several exceptions to copyright protection, but these do not explicitly address AI training models. Courts are likely to evaluate whether the use of copyrighted material for AI training qualifies as fair use, considering factors such as the purpose and character of the use, the nature of the copyrighted work, the amount and substantiality of the portion used, and the effect of the use upon the potential market for or value of the copyrighted work.¹¹
- **Transformative Use:** A critical aspect of fair use is whether the AI's use of copyrighted material is *transformative*. If the AI system merely reproduces the original work or serves as a direct substitute, it is less likely to be considered fair use. However, if the AI uses the material to create something new and original, it may be considered transformative, and thus, a fair use. In cases like *Thomson Reuters vs. ROSS Intelligence*, the court found that the AI was not generative and served the same purpose as the original, weighing against fair use.¹²¹³
- **Human Authorship Requirement:** Indian copyright law, like many jurisdictions, traditionally requires human authorship for copyright protection. The Copyright Act of 1957 does not explicitly exclude non-human entities from authorship, but the concept of authorship is generally understood to involve human creativity. Recent discussions and legal analyses suggest that Indian law could potentially accommodate AI-generated

¹¹ Ramachandran, Parvathy. "Subject Matter of Copyright Under Indian Copyright Act, A Study on Judicial Documents in India." *International Journal For Multidisciplinary Research* (2025): n. pag.

¹² Admin, & Admin. (2025, January 23). Navigating challenges in India and the US. *IIPRD* /. <https://www.iiprd.com/ai-and-fair-use-navigating-legal-challenges-in-india-and-the-united-states/>

¹³ Thomson Reuters Enterprise Centre GmbH v. Ross Intelligence Inc. No. 1:20-CV-613-SB (D. Del. Feb. 11, 2025)

works by distinguishing between authorship and ownership, allowing legal entities to manage the rights of AI-created content.¹⁴

In India, the ongoing *ANI vs. OpenAI* case is poised to set a significant precedent regarding fair use and AI training. OpenAI has argued that its use of publicly available data for training AI models falls under fair use exceptions, while ANI contends that this unauthorized use infringes on their copyright and constitutes unfair competition. The outcome of this case will be pivotal in shaping India's approach to AI and copyright law, potentially influencing future legal frameworks and policies related to AI development and intellectual property rights.¹⁵

Legal Framework and Future Directions

Indian copyright law, being a statutory right, offers flexibility in interpreting authorship and ownership. This flexibility could allow for the recognition of AI-generated works within the existing legal framework by separating authorship from ownership, similar to how works created by minors are handled¹. However, the lack of explicit provisions for AI in the Copyright Act of 1957 necessitates legislative updates to address the challenges posed by AI technologies effectively.

To balance innovation with intellectual property protection, India may consider adopting a permissionless innovation approach that stimulates AI development while safeguarding creators' rights. This could involve incorporating AI-specific provisions into copyright law, drawing inspiration from international models and tailoring them to India's socio-legal context. The judicial interpretation of AI and copyright law in India is evolving, with ongoing cases like *ANI vs. OpenAI* set to establish crucial precedents. As India positions itself as a leader in AI, it is essential to develop a legal framework that supports both technological advancement and the protection of intellectual property rights. By leveraging the flexibility of the Copyright Act and considering international best practices, India can create a balanced and progressive legal environment for AI innovation.¹⁶

¹⁴ Agrawal, Akshat and Jain, Sneha, Indian Copyright Law and Generative AI (November 21, 2024).

<https://ssrn.com/abstract=5028835>

¹⁵ *Ani Media Pvt Ltd V. Open AI Inc & Anr.* Cs(Comm) 1028 / 2024; Ongoing Matter In The High Court Of Delhi At New Delhi.

¹⁶ Nayantara Sanyal, Sheetal Mishra, Nihal Shah, Nayantara Sanyal, Sheetal Mishra, & Nihal Shah. (2024, March 5). *Intersection of Intellectual Property Rights and AI-Generated Works – Part I*. Bar And Bench - Indian Legal News. <https://www.barandbench.com/law-firms/view-point/intersection-intellectual-property-rights-ai-generated-works-part-i>

Legislative and Policy Developments

In response to the challenges posed by AI, various legislative and policy initiatives are underway to address copyright issues.

- **UK Government Consultation:** The UK government has launched a consultation to gather feedback on potential changes to UK copyright law in light of AI. The proposals range from maintaining the current laws to introducing broad data mining rights that would allow the use of copyrighted works for AI training without the copyright holders' permission. The consultation principally proposes a new text and data mining (TDM) exception for all purposes where works are lawfully accessed. This approach aims to balance the interests of AI developers and content creators by ensuring transparency and providing rights holders with mechanisms to opt out of having their works used for AI training.¹⁷
- **EU AI Act:** In the EU, the focus will be on the implementation of the EU AI Act, which came into force on August 1, 2024, with staggered deadlines. Drafts of the General-Purpose AI Code of Practice have been published, including details on the content of policies for complying with copyright laws. The EU's general TDM exception provides a framework for AI developers to use copyrighted works for data mining, while allowing rights holders to opt out.¹⁸¹⁹
- **U.S. Copyright Office Initiatives:** The U.S. Copyright Office has been actively studying the implications of AI for copyright law, including issuing guidance on the registration of AI-generated works and seeking public input on related policy issues. This effort aims to clarify how existing copyright laws apply to AI-generated content and ensure that the legal framework supports both innovation and creators' rights.²⁰
- **Indian Legislative Developments:** In India, policymakers are considering a permissionless innovation approach to stimulate AI development while safeguarding content creators' rights. The ongoing *ANI vs. OpenAI* case is expected to set a significant precedent for how copyrighted material may be used in AI training, potentially

¹⁷ Office, I. P. (2024, December 17). *Copyright and artificial intelligence*. GOV.UK. <https://www.gov.uk/government/consultations/copyright-and-artificial-intelligence>

¹⁸ AI Act enters into force. (2024, August 1). European Commission. https://commission.europa.eu/news/ai-act-enters-force-2024-08-01_en

¹⁹ Second Draft of the General-Purpose AI Code of Practice published, written by independent experts. (n.d.). Shaping Europe's Digital Future. <https://digital-strategy.ec.europa.eu/en/library/second-draft-general-purpose-ai-code-practice-published-written-independent-experts>

²⁰ <https://www.federalregister.gov/documents/2023/03/16/2023-05321/copyright-registration-guidance-works-containing-material-generated-by-artificial-intelligence>

influencing future legislative reforms.

- **Balancing Interests:** Policymakers face the challenge of balancing the interests of copyright holders and AI developers. Strengthening copyright protection could incentivize content creation but may hinder AI innovation. Conversely, granting broad data mining rights could accelerate AI development but may devalue creative works. A balanced approach might involve introducing AI-specific provisions into copyright law, drawing inspiration from international models and tailoring them to each country's socio-legal context.

As AI continues to evolve, legislative and policy developments will play a crucial role in shaping the legal landscape. Key considerations include:

- **International Harmonization:** Encouraging international cooperation to establish consistent standards for AI and copyright law can help mitigate cross-border legal complexities.
- **Transparency and Accountability:** Implementing transparency measures that require AI developers to disclose the sources of data used for training can enhance trust and accountability.
- **Adaptive Regulatory Frameworks:** Developing flexible regulatory frameworks that can adapt to the rapid advancements in AI technology will be essential for maintaining a balance between innovation and intellectual property protection.

In India, the *ANI vs. OpenAI* case highlights the need for legislative reforms to address AI-related copyright issues. The case involves allegations that OpenAI used copyrighted news articles without permission to train its AI models, raising questions about fair use and jurisdiction. This case could lead to significant policy changes in India, influencing how AI technologies are regulated and how intellectual property rights are protected in the digital age.²¹²²

Indian Music Industry's Involvement

Recently, prominent Indian music companies such as Saregama, T-Series, and the Indian Music Industry (IMI) have joined the lawsuit against OpenAI, alleging unauthorized use of copyrighted music in AI training. This development underscores the growing concern among

²¹ Ani Media Pvt Ltd V. Open AI Inc & Anr. Cs(Comm) 1028 / 2024; Ongoing Matter In The High Court Of Delhi At New Delhi

²² 1. Jan. ANI v OpenAI: A copyright, AI training and false attribution dispute. Law.asia. 2025 Feb 10. <https://law.asia/ani-vs-openai-legal-case/>

content creators about the impact of AI on intellectual property rights. The involvement of the music industry adds another layer to the legal debate, emphasizing the need for clear guidelines on the use of copyrighted materials in AI development.²³

Balancing Interests: Policymakers face the challenge of balancing the interests of copyright holders and AI developers. Strengthening copyright protection could incentivize content creation but may hinder AI innovation. Conversely, granting broad data mining rights could accelerate AI development but may devalue creative works. A balanced approach might involve introducing AI-specific provisions into copyright law, drawing inspiration from international models and tailoring them to each country's socio-legal context.

As these legal battles unfold, they underscore the urgent need for legislative reforms that address contemporary challenges posed by AI technologies. The outcome of these cases will likely shape both domestic policy and international discourse on copyright law in relation to artificial intelligence technologies.

The Evolving Role of Copyright Law in the Age of AI-Generated Works

The emergence of generative artificial intelligence necessitates a rethinking of creative activity and the traditional copyright system. Unlike previous digital tools, which expanded human creativity by improving original works, generative AI creates content through complex algorithmic processes, blurring the boundaries of authorship and originality. Courts deny copyright in works created by AI and insist on the need for human authorship. It seems promising to create flexible intellectual property standards that give artists the opportunity to restrict or authorize the use of their works as training data for AI.

- **AI-Assisted Works and Human Creativity:** Under U.S. copyright law, AI-assisted works that involve substantial human input may qualify for copyright protection. Copyright law permits protection for human-authored portions of a work, which might include prompt design, selection, and post-processing, while excluding purely machine-generated content. Human input continues to serve as the critical factor in copyright eligibility, especially in works generated with AI assistance. For instance, the U.S. Copyright Office has allowed registration of a comic book that included images

²³ Mukherjee, V. (2025, February 14). T-Series, Saregama, Sony Music look to join copyright suit against OpenAI. *www.business-standard.com*. https://www.business-standard.com/companies/news/bollywood-t-series-saregama-sony-music-copyright-lawsuit-openai-delhi-hc-125021400876_1.html

generated by AI, but only for the human-authored narrative and structure.²⁴

In India, a similar approach is proposed through the concept of a "Significant Human Input" test. This framework seeks to strike a balance between fostering innovation and honoring human creativity by acknowledging AI-generated content within existing copyright standards. By emphasizing human involvement, such as creative direction or post-processing, Indian law can adapt to accommodate AI-driven innovation while maintaining the principles of originality and human authorship.²⁵

- **Originality in AI-Generated Works:** Determining the originality of AI-generated works is a complex task. While AI can produce outputs that mimic human creativity, the legal standard of originality requires that a work be independently created by a human author and possess at least some minimal degree of creativity. This requirement poses challenges for AI-generated content, as it often lacks direct human authorship. However, recent cases suggest that AI can be seen as a tool that complements human creativity, allowing for the protection of works where AI assists in the creative process but does not replace human input entirely.²⁶
- **AI and Patent Offices:** Examining the automation and efficiency implications of AI within patent office's reveals potential benefits in enhancing processes but also raises questions about the nature of inventive activity. AI can assist in patent searches and drafting, improving the speed and accuracy of patent applications. However, the use of AI in generating inventions raises ethical and legal questions about inventorship and the patentability of AI-driven innovations. As AI becomes more integral to the inventive process, patent offices will need to address these issues to ensure that intellectual property rights are properly assigned and protected.²⁷
- **Transparency, Ethical Standards, and Rights Protections:** As AI systems become increasingly autonomous, the need for transparency, ethical standards, and rights protections will grow. A balanced approach could involve creating a legal category for

²⁴ GlobeNewswire Press Releases. (n.d.). *Artificial intelligence and copyright — AI: The Washington Report*. Natlawreview.com. Retrieved February 26, 2025, from <https://natlawreview.com/article/artificial-intelligence-and-copyright-ai-washington-report>

²⁵ S.S. Rana & Co. The AI Conundrum: Protecting Intellectual Property in the Age of Generative Technology - S.S. Rana & Co. S.S. Rana & Co. 2024 Dec 3. <https://ssrana.in/articles/the-ai-conundrum-protecting-intellectual-property-in-the-age-of-generative-technology/>

²⁶ GAFFAR H, ALBARASHDI S. Copyright Protection for AI-Generated Works: Exploring Originality and Ownership in a Digital Landscape. *Asian Journal of International Law*. Published online 2024:1-24. doi:10.1017/S2044251323000735

²⁷ Van Der Herten K. AI proves effective at improving patent office efficiency and application timeliness. 2022 Mar 23. <https://www.cas.org/resources/cas-insights/ai-proves-effective-improving-patent-office-efficiency>

human-AI collaborative works, acknowledging AI as a tool while protecting the human's central role in creative direction. This approach would ensure that AI is used ethically and that creators retain control over their intellectual property. Implementing transparency measures, such as requiring AI developers to disclose the sources of data used for training, can foster trust and accountability in the AI ecosystem.

- **Future Directions:** The evolution of copyright law in response to AI-generated works will likely involve a hybrid approach that integrates AI as a secondary tool in the creative process. This approach would recognize AI's role in augmenting human creativity while maintaining human authorship as the core requirement for copyright protection. As AI technologies continue to advance, policymakers must navigate the delicate balance between fostering innovation and protecting intellectual property rights. By developing flexible intellectual property standards and emphasizing human involvement in AI-assisted works, the legal framework can adapt to support both technological progress and creative industries.
- **International Harmonization:** International cooperation will be crucial in establishing consistent standards for AI and copyright law. As AI technologies transcend national borders, harmonizing legal frameworks can help mitigate cross-border complexities and ensure that intellectual property rights are uniformly protected. This could involve collaborative efforts among countries to develop guidelines for AI-generated content, ensuring that both innovation and creators' rights are respected globally.

The intersection of AI and copyright law presents complex challenges that require innovative legal solutions. By emphasizing human creativity and integrating AI as a complementary tool, copyright law can evolve to accommodate AI-generated works while protecting intellectual property rights. As AI continues to transform creative industries, it is essential to establish clear guidelines that balance technological advancement with the protection of human authorship and originality.

Challenges

The integration of AI into intellectual property rights (IPR) presents numerous challenges and opportunities for future development. Addressing these challenges requires a multifaceted approach that considers legal, ethical, and technological aspects.

AI and Data Ownership: Addressing the complexities surrounding data ownership in the

context of AI is crucial, particularly concerning the use of personal data and the application of regulations like GDPR. The GDPR emphasizes transparency, consent, and accountability in data processing, which becomes increasingly complex when AI systems handle vast amounts of personal data. Ensuring compliance with these regulations while allowing AI to leverage data for innovation is a significant challenge. For instance, AI models may inadvertently collect and process personal data without explicit consent, raising concerns about privacy and data protection.²⁸

- **Data Anonymization:** Implementing robust data anonymization techniques can help mitigate privacy concerns by ensuring that personal data is not identifiable. However, achieving effective anonymization while maintaining data utility for AI training is a technical challenge.
- **Consent Mechanisms:** Developing clear and user-friendly consent mechanisms is essential for obtaining explicit consent from individuals whose data is used in AI training. This includes transparent communication about how data will be used and providing options for opting out.

AI in IPR Enforcement and Management: AI systems can significantly enhance the protection, enforcement, and management of IPRs by automating tasks such as monitoring for infringements and analyzing large datasets to identify patterns of misuse. Use cases in IPR offices and digital platforms demonstrate AI's potential to streamline processes and improve efficiency. However, challenges include the cost and accessibility of these tools for small and medium-sized enterprises (SMEs), as well as the need for human oversight to ensure accuracy and fairness in decision-making.

- **AI-Powered Monitoring Tools:** AI can be used to monitor online platforms for copyright infringements, such as detecting unauthorized use of copyrighted images or text. This can help rights holders enforce their IPRs more effectively.²⁹
- **Automated Analysis:** AI can analyze large datasets to identify trends and patterns in IPR infringement, helping authorities focus enforcement efforts more effectively.

AI-Driven Inventions and Patent Law: Analyzing how patent law should adapt to AI-driven

²⁸ GDPR Advisor. GDPR compliance in the age of Artificial intelligence: Challenges and solutions. GDPR Advisor. Published September 22, 2024. <https://www.gdpr-advisor.com/gdpr-compliance-in-the-age-of-artificial-intelligence-challenges-and-solutions/>

²⁹ The impact of AI on intellectual property law. IIPLA. Published October 23, 2024. <https://iipla.org/impact-ai-intellectual-property-law/article/>

inventions is essential. Key considerations include the criteria for inventorship and the patentability of AI-generated innovations. The U.S. Patent and Trademark Office (USPTO) has sought public comments on these issues, highlighting the need for updated guidance and potential legislative changes to accommodate AI advancements. The question of whether AI can be considered an inventor under patent law remains contentious, with some jurisdictions rejecting AI as a legal inventor due to the requirement for human creativity.³⁰

- **Inventorship Criteria:** Establishing clear criteria for inventorship in AI-driven inventions is crucial. This could involve recognizing human oversight and creative direction as essential components of the inventive process.³¹
- **Patentability of AI-Generated Innovations:** Determining whether AI-generated innovations are patentable requires a nuanced understanding of what constitutes an invention. This involves considering whether AI-generated ideas meet the novelty and non-obviousness requirements under patent law.³²

The Blurring Lines of Authorship: Examining cases where AI contributes significantly to the creation of a work challenges traditional notions of authorship and requires new legal frameworks. Courts have generally denied copyright protection to works created solely by AI, emphasizing the need for human authorship. However, AI-assisted works that involve substantial human input may qualify for protection, raising questions about how to define and measure human contribution in collaborative creative processes.

- **Human Contribution Test:** Developing a test to determine the level of human contribution in AI-assisted works could help clarify eligibility for copyright protection. This might involve assessing the extent of human creative input, such as prompt design or post-processing.
- **Collaborative Works:** Recognizing AI as a collaborative tool in creative processes could lead to new legal categories for human-AI co-created works, ensuring that both human and AI contributions are acknowledged.
- Investigating the need for international harmonization of AI and IPR laws is crucial to

³⁰ Request for comments regarding artificial intelligence and inventorship. Federal Register. Published February 14, 2023. <https://www.federalregister.gov/documents/2023/02/14/2023-03066/request-for-comments-regarding-artificial-intelligence-and-inventorship>

³¹ USPTO issues inventorship guidance and examples for AI-assisted inventions. USPTO. Published February 12, 2024. <https://www.uspto.gov/subscription-center/2024/uspto-issues-inventorship-guidance-and-examples-ai-assisted-inventions>

³² USPTO publishes Request for Comments regarding the impact of AI on certain patentability determinations. USPTO. Published April 30, 2024. <https://www.uspto.gov/about-us/news-updates/uspto-publishes-request-comments-regarding-impact-ai-certain-patentability>

ensure uniform protection and address cross-border issues. As AI technologies transcend national borders, consistent standards can help mitigate legal complexities and ensure that intellectual property rights are uniformly protected. This involves collaborative efforts among countries to develop guidelines for AI-generated content and to establish clear rules for data ownership and use.

- **Global Agreements:** Encouraging international agreements, such as treaties or conventions, can help harmonize AI and IPR laws globally. This would facilitate cross-border collaboration and enforcement while ensuring consistent protection for creators.³³
- **Regional Initiatives:** Regional initiatives, such as those within the EU or ASEAN, can also play a crucial role in establishing harmonized standards for AI and IPR, providing a model for broader international cooperation.³³

Ethical Considerations: Exploring the ethical considerations surrounding AI and IPR, including issues of bias, fairness, and accountability in AI-generated works, is essential. AI systems can perpetuate biases present in training data, leading to unfair outcomes in decision-making processes. Ensuring transparency and explainability in AI decision-making can help address these concerns, but it requires ongoing research and development of ethical AI frameworks.

- **Bias Mitigation:** Implementing strategies to mitigate bias in AI systems, such as diverse training datasets and regular auditing, can help ensure fairness in AI-generated outputs.³⁴
- **Explainability:** Developing AI systems that provide clear explanations for their decisions can enhance accountability and trust in AI-driven processes.

Future Directions: In the future, addressing these challenges will involve:

- **Regulatory Updates:** Updating copyright and patent laws to explicitly address AI-generated works and inventions.
- **International Cooperation:** Encouraging international agreements to harmonize AI and IPR laws globally.
- **Ethical Standards:** Developing and enforcing ethical standards for AI development to

³³ GAFFAR H, ALBARASHDI S. Copyright Protection for AI-Generated Works: Exploring Originality and Ownership in a Digital Landscape. *Asian Journal of International Law*. Published online 2024:1-24. doi:10.1017/S2044251323000735

³⁴ Ferrara E. Fairness and Bias in Artificial intelligence: A brief survey of sources, impacts, and mitigation strategies. *Sci*. 2023;6(1):3. doi:10.3390/sci6010003

ensure fairness and accountability.

- **Technological Innovation:** Continuing to innovate AI technologies that support human creativity while respecting intellectual property rights.

Comparative Legal Analysis: Comparative studies across jurisdictions such as the UAE, Egypt and France highlight the need for legal frameworks that balance innovation with intellectual property protection. These studies emphasize the importance of defining authorship in AI-generated works and propose solutions like granting legal capacity to AI systems or establishing specific codes of ethics to regulate AI use ethically and legally³⁵.

The European Union's AI Act, expected to fully apply by 2026, includes provisions that allow AI developers to utilize copyrighted materials for TDM unless rights holders explicitly opt out. This opt-out mechanism aims to facilitate AI innovation while respecting the rights of content creators. However, concerns have been raised about the practical implementation of such opt-out systems and their potential impact on the creative industry. In the UK, for instance, ministers are reconsidering plans to relax copyright restrictions for AI companies after significant pushback from artists and creators. Proposed changes may include exempting certain sectors and ensuring that AI companies cannot use creators' content without proper compensation.³⁶

In 2025, regulatory scrutiny of AI technologies is expected to increase, with a focus on balancing innovation with IP protection. Governments are exploring legislative changes to permit text and data mining for AI training, while ensuring rights holders can opt out. The use of AI in administrative decision-making also raises legal challenges, including copyright and data protection issues. The integration of AI into IPR presents complex challenges that require innovative legal solutions. By emphasizing human creativity and integrating AI as a complementary tool, copyright law can evolve to accommodate AI-generated works while protecting intellectual property rights.

³⁵ Fayed A, Zakaria A, Abouahmed A. INNOVATIONS OF ARTIFICIAL INTELLIGENCE IN LIGHT OF THE APPLICABLE COPYRIGHT LAW: REALISTIC SOLUTIONS AND FUTURE PROSPECTS. a COMPARATIVE STUDY OF UAE, EGYPTIAN, AND FRENCH LAWS. Published February 14, 2025. <https://ajee-journal.com/innovations-of-artificial-intelligence-in-light-of-the-applicable-copyright-law-realistic-solutions-and-future-prospects-a-comparative-study-of-uae-egyptian-and-french-laws>

³⁶ Stacey K, Courea E. UK ministers consider changing AI plans to protect creative industries. *The Guardian*. https://www.theguardian.com/technology/2025/feb/25/uk-ministers-planning-to-change-ai-plans-to-protect-creative-industries?utm_source=chatgpt.com. Published February 25, 2025.

Conclusion and Recommendations

The intersection of Artificial Intelligence (AI) and Intellectual Property Rights (IPR) presents a complex landscape of legal, ethical, and technological challenges. As AI technologies continue to evolve, they are transforming various sectors, from creative industries to legal and administrative processes. However, this transformation raises critical questions about how existing IPR frameworks can accommodate AI-generated works and the use of copyrighted materials in AI training.

The recent surge in copyright infringement lawsuits against AI companies highlights the growing tensions between content creators and AI developers. Cases such as *Cohere*³⁷, *Thomson Reuters vs. ROSS Intelligence*³⁸, and *Andersen. v. Stability AI Ltd*³⁹. demonstrate the legal complexities surrounding AI and copyright law. These cases underscore the need for clarity on issues like fair use, transformative use, and human authorship in AI-assisted works. Legislative and policy developments, such as the UK government initiated a consultation in December 2024 to explore potential amendments to copyright laws, aiming to balance the interests of AI developers and rights holders.⁴⁰ and the EU's AI Act, reflect efforts to address these challenges. However, balancing innovation with intellectual property protection remains a significant challenge. Policymakers must navigate the delicate balance between fostering AI development and safeguarding creators' rights.

Recommendations

To address the evolving challenges at the intersection of AI and IPR, several recommendations can be considered:

- 1. Clarity in Fair Use Doctrine:** Courts should provide clear guidelines on how the fair use doctrine applies to AI training, particularly regarding transformative use. This clarity will help AI developers understand what constitutes permissible use of copyrighted material.
- 2. Legislative Action:** Legislatures should consider updating copyright laws to explicitly

³⁷ Advance Local Media LLC v. Cohere, Inc., 1:25-cv-01305

³⁸ Thomson Reuters Enterprise Centre GmbH v. Ross Intelligence Inc. No. 1:20-CV-613-SB (D. Del. Feb. 11, 2025)

³⁹ “No. 23-cv-00201-WHO” *Andersen v. Stability AI Ltd.*, 700 F. Supp. 3d 853, (N.D. Cal. 2023)

⁴⁰ Copyright and artificial intelligence. GOV.UK. Published December 17, 2024. <https://www.gov.uk/government/consultations/copyright-and-artificial-intelligence/copyright-and-artificial-intelligence>

address AI-generated works and inventions. This could involve introducing new exceptions for AI training or clarifying the criteria for inventorship in AI-driven inventions.

3. **Licensing Frameworks:** Developing licensing frameworks for AI training could provide a mechanism for compensating copyright holders while allowing AI developers to access the data they need. This approach would require collaboration between rights holders, AI developers, and policymakers.
4. **Transparency and Accountability:** Implementing transparency measures that require AI developers to disclose the sources of data used for training can foster trust and accountability. This includes ensuring that AI systems are explainable and that their decision-making processes are transparent.
5. **International Harmonization:** Encouraging international agreements to harmonize AI and IPR laws globally can help mitigate cross-border complexities. Consistent standards would facilitate collaboration and ensure uniform protection for creators.
6. **Ethical Standards:** Developing and enforcing ethical standards for AI development is crucial to ensure fairness and accountability. This includes addressing issues of bias, privacy, and data protection in AI systems.
7. **Education and Dialogue:** Fostering ongoing dialogue between policymakers, legal experts, AI developers, and content creators is essential. This dialogue can help address emerging challenges and ensure that legal frameworks evolve in line with technological advancements.

By implementing these recommendations, policymakers, legal practitioners, and stakeholders can help shape a future where AI innovation and intellectual property rights coexist harmoniously. This requires a collaborative effort to create flexible legal frameworks that support both technological progress and the protection of creative works.

As AI continues to transform industries, the legal landscape will need to adapt rapidly. Future research should focus on:

- **AI-Specific Legal Frameworks:** Developing legal frameworks that explicitly address AI-generated works and inventions.
- **Cross-Disciplinary Collaboration:** Encouraging collaboration between legal, ethical, and technological experts to address the multifaceted challenges of AI and IPR.
- **Global Governance:** Establishing international governance structures to oversee AI development and ensure consistent standards for IPR protection.

By embracing these future directions, we can ensure that the benefits of AI are realized while

protecting the rights of creators and innovators.

In conclusion, the integration of AI into IPR presents complex challenges that require innovative legal solutions. By emphasizing human creativity and integrating AI as a complementary tool, copyright law can evolve to accommodate AI-generated works while protecting intellectual property rights. As AI continues to transform creative industries, it is essential to establish clear guidelines that balance technological advancement with the protection of human authorship and originality. By working together, we can create a future where AI innovation and intellectual property rights coexist harmoniously, fostering creativity and progress for all.

