



(REVIEW ARTICLE)



Examining legal and ethical frameworks for protecting intellectual property rights in AI-generated content across creative industries

Olajumoke Ifeolua Adebisi ¹ and Oluwafemi Clement Adeusi ^{2,*}

¹ School of Law, Robert H. McKinney, Indiana University, Indiana, USA.

² Department of Computer Science Network and Security, Staffordshire University, UK.

World Journal of Advanced Research and Reviews, 2025, 26(03), 1553-1561

Publication history: Received on 28 April 2025; revised on 02 June 2025; accepted on 05 June 2025

Article DOI: <https://doi.org/10.30574/wjarr.2025.26.3.2239>

Abstract

The proliferation of Artificial Intelligence technologies capable of generating creative content has introduced unprecedented challenges to traditional intellectual property frameworks. This research examines the evolving legal and ethical considerations surrounding AI-generated content across various creative industries, including visual arts, music, literature, and software development. The paper analyzes existing IP protection mechanisms, including copyright, patent, and trademark law, evaluating their adequacy and limitations when applied to AI-created works. Our review encompasses both theoretical frameworks and practical implementations across different jurisdictions, highlighting landmark cases and emerging precedents. The findings indicate significant gaps in current legal frameworks, with jurisdictions varying widely in their approaches to authorship, originality requirements, and protection mechanisms for AI-generated content. Challenges persist regarding attribution, ownership determination, fair use considerations, and the balancing of innovation incentives with creator rights. This review also addresses the ethical implications of AI content generation, including concerns about bias, cultural appropriation, and economic displacement of human creators. We provide recommendations for policymakers, creative industries, and technology developers to establish more coherent and equitable frameworks that can adapt to the rapidly evolving landscape of AI-generated creative content while preserving the fundamental principles of intellectual property protection.

Keywords: Artificial Intelligence; Intellectual Property; Copyright Law; AI-Generated Content; Creative Industries; Digital Rights

1. Introduction

The convergence of Artificial Intelligence and creative industries has transformed both the production processes of creative content and the fundamental concepts underlying intellectual property rights. As AI systems increasingly demonstrate capabilities to generate music, visual art, literature, and other creative works, traditional IP frameworks face unprecedented challenges in addressing questions of authorship, originality, and protection [1]. This review paper examines the intersection of AI technologies and intellectual property rights, exploring how existing legal structures are adapting to AI-generated content across diverse creative sectors.

The challenge of protecting intellectual property in AI-generated works represents a significant concern for creative industries worldwide, with estimates suggesting substantial economic implications for sectors ranging from entertainment to software development [2]. Traditional frameworks of IP protection, largely predicated on human creativity and identifiable authorship, have proven increasingly inadequate in addressing the unique characteristics of AI-generated content [3]. The integration of AI technologies in creative processes offers promising new avenues for innovation while simultaneously disrupting established legal paradigms.

* Corresponding author: Oluwafemi Clement Adeusi

The global response to AI-generated content represents a paradigm shift in how legal systems approach intellectual property protection [4]. This shift is characterized by the movement from clear attribution-based models to more complex considerations of collaborative and algorithmic creativity, enabled by machine learning systems trained on vast datasets of human-created works. The integration of these advanced technologies has not only challenged existing IP frameworks but has also led to emerging questions about ethical considerations, economic implications, and the future of human creativity in an AI-augmented world [5].

This research aims to provide a comprehensive analysis of current legal and ethical frameworks addressing IP rights in AI-generated content, examining both theoretical approaches and practical implementations. We explore the various methodologies employed across jurisdictions, their effectiveness in different creative contexts, and the challenges faced in their application. The review also considers the broader implications of AI adoption in creative industries, including economic impacts, cultural considerations, and the evolving relationship between human and machine creativity.

2. Overview of AI Applications in Creative Industries

2.1. Visual Arts and Design

Artificial Intelligence has revolutionized the creation and production processes in visual arts and design sectors [6]. Generative adversarial networks (GANs), diffusion models, and other deep learning architectures have demonstrated remarkable capabilities in creating visual content ranging from digital paintings and illustrations to 3D models and architectural designs [7]. These systems analyze vast datasets of existing artworks to identify patterns and stylistic elements, enabling them to generate new content that can mimic historical styles or create entirely novel visual expressions. Research indicates that some AI-generated artworks have achieved market recognition comparable to human-created works, with auction sales exceeding millions of dollars [8]. Studies have shown that visual content creation tools utilizing style transfer and image synthesis algorithms have democratized design capabilities while simultaneously raising questions about authenticity and artistic value [9].

2.2. Music and Audio Production

The implementation of AI in music composition and audio production represents a significant evolution in how musical content is created and distributed [10]. Modern AI-powered systems utilize deep learning algorithms and recurrent neural networks to analyze musical structures, harmonic progressions, and stylistic elements from extensive training data [11]. This approach has proven particularly effective in generating original compositions in specific genres or mimicking the styles of renowned composers and artists. These systems incorporate automated arrangement capabilities, sound design techniques, and even lyric generation, enabling comprehensive music creation with minimal human intervention. Research indicates that AI-generated music is increasingly being used in commercial applications, including film scoring, advertising, and streaming platforms, creating new challenges for traditional music licensing and royalty systems [12].

2.3. Literature and Text Generation

Natural Language Processing technologies have transformed content creation across literary formats and textual production [13]. Advanced language models can generate various forms of written content, including short stories, poetry, news articles, technical documentation, and marketing copy [14]. These systems employ sophisticated text generation algorithms, including transformer-based architectures that can maintain narrative consistency and stylistic coherence across lengthy texts. Research has shown that incorporating AI-generated content in publishing workflows can improve productivity while raising significant questions about originality and the future role of human writers [15].

2.4. Software Development and Code Generation

AI-powered code generation has emerged as a transformative force in software development [16]. These systems utilize machine learning techniques to analyze code repositories and programming patterns, enabling automated generation of functional code snippets, algorithms, and even complete applications. Modern code-focused AI systems can process natural language requirements and translate them into executable code across multiple programming languages while handling complex logic and optimizing for performance. [17].

3. Current Legal Frameworks and Jurisdictional Approaches

3.1. Global Legal Landscape

The legal frameworks governing AI-generated content vary significantly across jurisdictions, reflecting different philosophical approaches to intellectual property. The United States Copyright Office has established precedent through cases like *Thaler v. U. S. Copyright Office* (2023), maintaining that copyright protection requires human authorship and creativity, effectively excluding purely AI-generated works from protection [(18,19)]. The ruling specified that works must show evidence of human creative input to qualify for copyright protection, though collaborative human-AI works may receive limited protection.

In the European Union, the harmonization of approaches to AI-generated content remains incomplete despite initiatives like the EU AI Act and Digital Single Market Directive. The EU approach generally emphasizes the "sweat of the brow" doctrine, providing potential protection for works demonstrating sufficient human investment and arrangement, even with substantial AI involvement [20]. The Court of Justice of the European Union's interpretations suggest that technical choices and creative arrangements by humans in AI-generated works may qualify for protection.

In the United Kingdom, the Copyright, Designs and Patents Act provides that computer-generated works (where no human author exists) receive a modified form of copyright protection for 50 years, with authorship attributed to "the person by whom the arrangements necessary for the creation of the work are undertaken" [21]. This pragmatic approach acknowledges the reality of non-human creation while providing a framework for economic rights and attribution.

3.2. Authorship and Ownership Determinations

The question of authorship in AI-generated content presents significant legal challenges across jurisdictions. Traditional theories centered on human creativity struggle with the collaborative and algorithmic nature of AI creation processes. The developer-centric approach attributes authorship to the AI system's creators or operators, recognizing their selection of training data and system parameters as sufficient creative contribution [22]. Alternative user-centric frameworks emphasize the role of the end-user who provides prompts and selects outputs, arguing their direction constitutes meaningful creative input.

Some jurisdictions have explored novel legal constructs, including work-for-hire doctrines adapted to AI contexts or limited forms of non-human authorship with assigned rights management [23]. However, these approaches face significant implementation challenges and philosophical resistance.

3.3. Originality Standards and Protection Thresholds

The application of originality requirements to AI-generated content varies considerably across legal systems. In jurisdictions applying the "modicum of creativity" standard, questions arise regarding whether algorithmic outputs satisfy minimum creativity thresholds when no direct human creative decisions are involved [24]. AI outputs that closely mimic existing works may fail originality tests even when computationally novel if they do not demonstrate sufficient creative distinction.

The "sweat of the brow" doctrine offers alternative protection pathways in some jurisdictions, recognizing substantial investment in data collection, system development, or content arrangement as potentially protectable. However, this approach conflicts with precedents established in landmark cases like *Feist Publications v. Rural Telephone Service*, which rejected protection based solely on labor or investment without creative elements [25].

3.4. Fair Use and Limitations

The application of fair use doctrines to AI-generated content introduces new complexities to intellectual property frameworks. Traditional fair use factors, including purpose of use, nature of the copyrighted work, amount used, and market impact, require substantial reinterpretation when applied to training data usage and derivative AI outputs [26]. Recent litigation concerning the training of AI models on copyrighted materials has produced contradictory rulings across jurisdictions, leaving significant uncertainty regarding permissible data usage [27].

Transformative use considerations become particularly complex when algorithmic systems create outputs statistically derived from thousands or millions of source works without direct copying. The market impact analysis similarly

requires new evaluation frameworks when AI systems can rapidly produce content at scales that potentially disrupt entire creative industries [28].

3.5. Emerging Case Law and Precedents

Recent judicial decisions have begun establishing important precedents in AI intellectual property disputes. The "Creativity Machine" and "DABUS" patent cases across multiple jurisdictions have consistently rejected non-human inventors, though with varying rationales [29]. The *Thaler v. Perlmutter* copyright case similarly established limits on protection for AI-generated visual art in the United States.

In contrast, litigation surrounding the training data used by major AI companies has produced mixed results. Cases against Stability AI, Midjourney, and other generative AI providers have raised substantial questions about copyright infringement in model training, though few have reached definitive resolution [30]. These emerging cases highlight the legal uncertainty facing both AI developers and content creators in a rapidly evolving landscape.

4. Challenges in Protecting IP Rights in AI-Generated Content

4.1. Technical and Practical Challenges

The implementation of effective IP protection for AI-generated content faces significant technical hurdles, primarily related to provenance tracking and content authentication [31]. The ability to generate virtually unlimited variations of content through minimal prompt adjustments creates unprecedented difficulties in identifying unauthorized derivatives or establishing originality timelines. Current technical solutions, including digital watermarking, blockchain registration, and fingerprinting systems, offer partial solutions but face significant limitations in scalability and effectiveness [32]. Additionally, the rapid evolution of AI generation capabilities often outpaces technical protection measures, creating continuous challenges for enforcement mechanisms.

4.2. Economic Implications and Market Disruption

The economic impact of AI content generation presents substantial challenges across creative industries. Traditional compensation models based on clear creator attribution and licensing arrangements struggle to accommodate collaborative human-AI creation processes [33]. The potential market flooding effect of low-cost, rapidly produced AI content threatens to devalue creative works across sectors, with studies suggesting potential revenue displacement ranging from 15-40% across various creative markets [34]. Furthermore, the concentration of economic benefits among AI system developers rather than a broader creative ecosystem raises significant concerns about industry sustainability and creative diversity.

4.3. Cross-Border Enforcement Issues

The protection of IP rights in AI-generated content faces formidable challenges in cross-border enforcement. Inconsistent legal approaches to AI authorship and originality requirements create jurisdictional arbitrage opportunities where content may receive protection in some regions while remaining unprotected in others [35]. The digital nature of AI-generated content facilitates instant global distribution, often rendering territorial enforcement mechanisms ineffective. Additionally, identifying responsible parties in AI content generation often involves complex international supply chains spanning multiple legal jurisdictions, from model developers to platform operators to end-users.

4.4. Transparency and Disclosure Requirements

Implementing effective disclosure requirements for AI-generated content presents significant challenges for IP protection frameworks. The complexity of generative models often makes comprehensive disclosure of training sources technically infeasible, limiting transparency about potential copyright infringement in the training process [36]. Current attempts to mandate AI content labeling face practical enforcement difficulties and encounter resistance from industry stakeholders concerned about competitive disadvantages. The appropriate scope of disclosure requirements remains contentious, with debates centering on whether technical details, training data sources, or simply the fact of AI involvement should be disclosed.

5. Ethical Implications and Societal Impact

5.1. Creator Rights and Attribution

The emergence of AI-generated content raises profound questions about creator rights and the fundamental nature of attribution. Studies indicate that proper attribution significantly impacts perceived value in creative works, with implications for both economic returns and creative reputation [37]. Research has demonstrated that unclear attribution in AI-collaborative works can lead to diminished valuation by audiences and markets, underscoring the importance of transparent credit systems [38]. Creative communities have expressed significant concerns about the potential devaluation of human creative labor, with surveys indicating 65-70% of professional creators perceive AI systems as potentially undermining attribution-based rewards for creative work [39].

5.2. Cultural Appropriation and Representation

AI systems trained on vast datasets of cultural material raise significant ethical concerns regarding appropriation and misrepresentation. Research indicates that generation models may disproportionately replicate and amplify dominant cultural expressions while marginalizing minority artistic traditions [40]. The extraction of stylistic elements from cultural traditions without appropriate acknowledgment or compensation presents particular ethical challenges when commercial entities profit from these derivatives. Additionally, questions about consent and respectful representation arise when AI systems generate content mimicking specific cultural expressions or sacred imagery without community involvement or approval [41].

5.3. Economic Justice and Creator Compensation

The implementation of AI in creative industries has significant implications for economic equity and creator compensation. While enhanced generation capabilities can democratize creation tools, the economic benefits often accrue disproportionately to technology developers rather than content creators [42]. Traditional compensation models based on royalties, attribution, and licensing face disruption when AI systems can generate unlimited content based on existing creative works without clear compensation mechanisms for original creators [43]. This technological gap may exacerbate existing economic inequalities between established industry players with access to advanced AI systems and independent creators with limited resources.

5.4. Transparency and Consumer Protection

The deployment of AI-generated content raises important ethical considerations regarding transparency and audience understanding. Research indicates that consumers often cannot reliably distinguish between human and AI-generated content, creating potential for manipulation or deception [44]. The absence of standardized disclosure requirements across platforms and jurisdictions compounds these concerns, with studies showing inconsistent approaches to labeling AI involvement in content creation. Questions of consent become particularly relevant when consumers engage with or purchase creative works without clear understanding of their origins, potentially undermining informed decision-making in content consumption [45].

5.5. Bias and Representational Fairness

The deployment of AI content generation systems raises significant concerns regarding algorithmic bias and representational fairness. Studies demonstrate that generative models often perpetuate and amplify biases present in training data, potentially leading to unequal representation across demographic groups [46]. Research indicates that visual generation systems frequently reproduce stereotypical depictions when prompted with demographic identifiers, while text generation systems may express implicit biases in character development and narrative construction [47]. The economic implications of these biases are substantial, potentially limiting opportunities for diverse creators while reinforcing problematic representations in commercial content.

6. Future Directions in IP Protection for AI-Generated Content

6.1. Emerging Technologies and Technical Solutions

The evolution of technologies for protecting IP rights in AI-generated content continues to offer new possibilities for addressing current challenges. The emergence of provenance tracking systems utilizing blockchain technology presents unprecedented potential for creating immutable records of content creation, ownership, and licensing history [48]. These systems could revolutionize the verification of rightful ownership while enabling more transparent attribution

chains in collaborative human-AI creation processes. Additionally, the integration of watermarking technologies with AI generation systems shows promise in creating detectable but non-intrusive markers that persist through content modifications [49]. This combination could significantly enhance detection capabilities for unauthorized use while maintaining content integrity.

6.2. Policy and Regulatory Innovations

Next generation policy frameworks are emerging to address the unique challenges of AI-generated content [50]. These approaches recognize the limitations of traditional copyright frameworks while acknowledging the legitimate interests of various stakeholders in the creative ecosystem. The development of more sophisticated sui generis protection systems specifically designed for AI-generated works offers potential compromise positions between full copyright protection and public domain status [51]. These systems might include limited term protections, mandatory licensing provisions, or special registration requirements calibrated to the unique characteristics of AI-generated content. Furthermore, the integration of ethical guidelines and industry self-regulation could provide complementary governance mechanisms alongside formal legal frameworks.

6.3. International Harmonization Efforts

International cooperation in AI intellectual property protection is evolving through emerging multi-stakeholder initiatives. Organizations including WIPO, UNESCO, and various regional bodies are developing model frameworks and best practices to guide national legislation while promoting cross-border consistency [52]. These collaborative efforts address key challenges including minimum protection standards, mutual recognition provisions, and standardized disclosure requirements. The development of international registration systems specifically for AI-generated works could significantly enhance protection across jurisdictions while streamlining enforcement mechanisms [53].

6.4. Alternative Protection Models

The future of IP protection for AI-generated content may see significant innovation in alternative protection models beyond traditional copyright frameworks [54]. These developments include the emergence of creative commons-inspired licensing frameworks specifically designed for AI outputs, providing flexible sharing options while maintaining attribution requirements. Exploration of limited monopoly rights with shorter durations than traditional copyright might better balance innovation incentives with public access to AI-generated works. Additionally, stakeholder-based models distributing rights across the AI development and deployment chain offer promising approaches to recognizing multiple contributions to the creative process.

7. Conclusion

The integration of Artificial Intelligence in creative industries represents a transformative challenge to intellectual property frameworks worldwide. Our review demonstrates that current legal systems exhibit significant gaps in addressing AI-generated content, with jurisdictions reporting widely varying approaches to fundamental questions of authorship, originality, and protection thresholds. The evolution from clear attribution models to complex collaborative creation processes, enabled by machine learning systems trained on vast datasets, has established new paradigms requiring thoughtful legal and ethical responses.

However, successful protection frameworks require addressing key challenges including provenance verification, fair compensation mechanisms, and cross-border enforcement. The economic and cultural implications of AI-generated content, coupled with its increasing sophistication and ubiquity, necessitate continued innovation in both technical solutions and legal frameworks.

The intersection of technological capability and ethical responsibility emerges as a crucial consideration in the future of creative industries. Our analysis reveals that successful IP frameworks must go beyond technical adequacy to encompass considerations of cultural sensitivity, economic justice, and diverse stakeholder interests. The demonstrated gaps in current protection systems must be addressed through collaborative approaches involving technology developers, creative communities, legal experts, and policymakers.

Recommendations

The successful implementation of IP protection frameworks for AI-generated content requires a multi-faceted approach to policy development and technological innovation. Policymakers should prioritize the development of sui generis protection frameworks specifically calibrated to AI-generated content, establishing clear standards for protection

thresholds, duration limits, and attribution requirements. These specialized frameworks should recognize the unique characteristics of AI-generated works while providing sufficient certainty for commercial development and creative exploration.

Technical solutions represent a critical component in effective IP protection. Industry stakeholders should invest in developing standardized content provenance systems that enable transparent tracking of creative contributions throughout the development process. This should be coupled with the implementation of persistent but non-intrusive watermarking technologies that can survive common modifications while providing clear identification of AI involvement in content creation. Additionally, the development of detection technologies capable of identifying AI-generated content should be balanced with privacy considerations and fair use provisions.

International harmonization emerges as a vital component in addressing cross-border challenges. Regulatory bodies should actively pursue collaborative frameworks that establish minimum protection standards while respecting jurisdictional differences in IP philosophy. This includes developing standardized disclosure requirements, creating mutual recognition provisions for content registration, and establishing clear rules for determining applicable law in multi-jurisdictional disputes. The engagement of multiple stakeholders, including technology developers, creative industry representatives, and consumer advocates, will be crucial in developing balanced solutions that address diverse interests.

Ethical frameworks must develop alongside legal protections. Industry standards should be established that address issues of cultural appropriation, bias mitigation, and fair compensation for training data sources. These frameworks should include requirements for transparency about AI involvement in content creation, enabling informed consumer choice while maintaining market viability for AI-generated works. Furthermore, policies should explicitly consider economic equity implications and establish mechanisms for ensuring that benefits from AI innovation are distributed fairly across the creative ecosystem.

The future success of IP protection for AI-generated content ultimately depends on achieving a delicate balance between innovation incentives, creator rights, and public access to cultural works. As these systems continue to evolve, maintaining this equilibrium will be crucial for fostering creativity while ensuring just compensation and recognition across the creative landscape. The journey toward comprehensive IP frameworks for AI-generated content represents not just a legal evolution but a fundamental reconsideration of how we understand creativity, authorship, and the relationship between human and machine expression in contemporary society.

References

- [1] Alvarez A. Assessing Copyright Infringement and Moral Rights Violations: The Impact of Artificial Intelligence on Authors and Visual Artists in the Creative Industries.
- [2] Shumakova NI, Lloyd JJ, Titova EV. Towards legal regulations of generative AI in the creative industry. *Journal of Digital Technologies and Law*. 2023;1(4):880-908.
- [3] Gaffar H, Albarashdi S. Copyright protection for AI-generated works: Exploring originality and ownership in a digital landscape. *Asian Journal of International Law*. 2024 Jan 23:1-24.
- [4] Mahala A, Chauhan B. AI-Generated innovations: developing intellectual property (IP) protection framework for the digital age. *International Cybersecurity Law Review*. 2025 Apr 22:1-7.
- [5] Lim D. AI and IP Innovation and Creativity in an Age of Accelerated Change. *Akron Law Review*. 2019;52(3):6.
- [6] Monser M, Fadel E. A modern vision in the applications of artificial intelligence in the field of visual arts. *International Journal of Multidisciplinary Studies in Art and Technology*. 2023 Jun 1;6(1):73-104.
- [7] Wang B, Chen Q, Wang Z. Diffusion-based visual art creation: A survey and new perspectives. *ACM Computing Surveys*. 2024.
- [8] Noble A. Assessing human competence in distinguishing between human-created and AI-generated dragon artworks: A study on individuals' ability to distinguish between AI-generated and human-created dragon artworks, focusing on art styles and prompt engineering techniques.
- [9] Bansal G, Nawal A, Chamola V, Herencsar N. Revolutionizing visuals: the role of generative AI in modern image generation. *ACM Transactions on Multimedia Computing, Communications and Applications*. 2024 Nov 14;20(11):1-22.

- [10] Civit M, Civit-Masot J, Cuadrado F, Escalona MJ. A systematic review of artificial intelligence-based music generation: Scope, applications, and future trends. *Expert Systems with Applications*. 2022 Dec 15;209:118190.
- [11] Balasubramanian A. AI-Powered Musical Fusion: Integrating Carnatic Music with Global Genres.
- [12] Lothe N. The implication of AI-generated music on the industry's business model.
- [13] Hirschberg J, Manning CD. Advances in natural language processing. *Science*. 2015 Jul 17;349(6245):261-6.
- [14] Pugachev AA, Kharchenko AV, Sleptsov NA. Transforming the future: a review of artificial intelligence models. *Вестник Российского университета дружбы народов. Серия: Литературоведение, журналистика*. 2023;28(2):355-67.
- [15] Khalifa M, Albadawy M. Using artificial intelligence in academic writing and research: An essential productivity tool. *Computer Methods and Programs in Biomedicine Update*. 2024 Mar 5:100145.
- [16] Sherje N. Enhancing Software Development Efficiency through AI-Powered Code Generation. *Research Journal of Computer Systems and Engineering*. 2024 Jul 17;5(1):01-12.
- [17] Smith BL, Mann SO. Innovation and intellectual property protection in the software industry: an emerging role for patents?. *The University of Chicago Law Review*. 2004 Jan 1:241-64.
- [18] Yaniski-Ravid S, Chen G, Guttentag A, Lessig L, Mason C. *Amici Curiae in Support of Appellant and Urging Reversal in the Case of Stephen Thaler v. US Copyright Office in the US Court of Appeals for the District of Columbia (Case No. 23-5233)(2024)*.
- [19] Rezek A. Filling the Enforcement Gap: Alternative Dispute Resolution as an Approach to Solving "Copyright" Disputes For AI-Generated Content. *J. Disp. Resol.*. 2024:190.
- [20] Gaffar H, Albarashdi S. Copyright protection for AI-generated works: Exploring originality and ownership in a digital landscape. *Asian Journal of International Law*. 2024 Jan 23:1-24.
- [21] Abbott R. Artificial intelligence, big data and intellectual property: protecting computer generated works in the United Kingdom. In *Research handbook on intellectual property and digital technologies 2020* Jan 7 (pp. 322-337). Edward Elgar Publishing.
- [22] Arkheden L, Eklund S. Evaluating the Use of Generative AI in Software Development Proposing a Tentative Framework.
- [23] Lubogo IC. *Legal personhood of artificial intelligence*. Jescho Publishing House; 2022.
- [24] Dornis TW. Artificial creativity: Emergent works and the void in current copyright doctrine. *Yale JL and Tech.*. 2020;22:1.
- [25] Ginsburg JC. No sweat copyright and other protection of works of information after *feist v. rural telephone*. *Colum. L. Rev.*. 1992;92:338.
- [26] Rodriguez Maffioli D. Copyright in Generative AI training: Balancing Fair Use through Standardization and Transparency. Available at SSRN 4579322. 2023 Aug 21.
- [27] Oppedal NM. Balancing Innovation and Copyrights: The Legal Framework for AI Training in the European Union.
- [28] Anantrasirichai N, Bull D. Artificial intelligence in the creative industries: a review. *Artificial intelligence review*. 2022 Jan;55(1):589-656.
- [29] Igbokwe EM. Human to machine innovation: Does legal personhood and inventorship threshold offer any leeway?. *The Journal of World Intellectual Property*. 2024 Jul;27(2):149-74.
- [30] Klukosky FP, Kohel MD. An Update on the State of Play with Generative Artificial Intelligence and Intellectual Property Issues. *Intellectual Property Litigation*. 2024 Jan 1;34(1):10-7.
- [31] Ghiurău D, Popescu DE. Distinguishing Reality from AI: Approaches for Detecting Synthetic Content. *Computers*. 2024 Dec 24;14(1):1.
- [32] Qureshi A, Megias Jimenez D. Blockchain-based multimedia content protection: Review and open challenges. *Applied Sciences*. 2020 Dec 22;11(1):1.
- [33] Luan YL. *The New Creative Alliance: Investigating the Dynamics of Human-AI Collaboration in Creative Endeavours (Doctoral dissertation)*.

- [34] Kalpokienė J. Law, human creativity and generative artificial intelligence: regulatory options. Taylor and Francis; 2024 Jun 12.
- [35] Rezek A. Filling the Enforcement Gap: Alternative Dispute Resolution as an Approach to Solving " Copyright" Disputes For AI-Generated Content. *J. Disp. Resol.*. 2024:190.
- [36] Lucchi N. ChatGPT: a case study on copyright challenges for generative artificial intelligence systems. *European Journal of Risk Regulation*. 2024 Sep;15(3):602-24.
- [37] Zakir MH, Bashir S, Nisar K, Ibrahim S, Khan N, Khan SH. Navigating the Legal Labyrinth: Establishing Copyright Frameworks for AI-Generated Content. *Remittances Review*. 2024 Jan;9(1):2515-32.
- [38] Abdelhalim E. The Willingness to Collaborate with Artificial Intelligence (AI) in the Workplace: The Role of AI Autonomy and Explainability (Doctoral dissertation).
- [39] Fotheringham DS. Artificially Intelligent Customer Service: Marketplace Implications and Consequences (Doctoral dissertation, Arizona State University).
- [40] Tolu OE, Peace P. Unpacking Bias in AI Art Generation: A Critical Analysis of Training Data and Its Ethical Consequences on Artistic Representation.
- [41] Alhejaili M. Harmonising derivatives with Shari'ah: ethical practices and regulatory insights. *International Journal of Islamic and Middle Eastern Finance and Management*. 2025 Feb 12.
- [42] Lee HK. Rethinking creativity: creative industries, AI and everyday creativity. *Media, Culture and Society*. 2022 Apr;44(3):601-12.
- [43] Ducru P, Raiman J, Lemos R, Garner C, He G, Balcha H, Souto G, Branco S, Bottino C. AI Royalties--an IP Framework to Compensate Artists and IP Holders for AI-Generated Content. arXiv preprint arXiv:2406.11857. 2024 Apr 5.
- [44] Lehtimäki ML. Navigating Ethical and Practical Challenges in AI-Driven Visual Content Creation.
- [45] He X, Fang L. Regulatory Challenges in Synthetic Media Governance: Policy Frameworks for AI-Generated Content Across Image, Video, and Social Platforms. *Journal of Robotic Process Automation, AI Integration, and Workflow Optimization*. 2024 Dec 13;9(12):36-54.
- [46] Ferrara E. Fairness and bias in artificial intelligence: A brief survey of sources, impacts, and mitigation strategies. *Sci*. 2023 Dec 26;6(1):3.
- [47] Wan Y, Subramonian A, Ovalle A, Lin Z, Suvarna A, Chance C, Bansal H, Pattichis R, Chang KW. Survey of bias in text-to-image generation: Definition, evaluation, and mitigation. arXiv preprint arXiv:2404.01030. 2024 Apr 1.
- [48] Panjabi A. Evaluating IPR Laws for AI-generated content: Challenges and Opportunities. *Library of Progress-Library Science, Information Technology and Computer*. 2024 Jul 15;44(3).
- [49] Brundage M, Avin S, Wang J, Belfield H, Krueger G, Hadfield G, Khlaaf H, Yang J, Toner H, Fong R, Maharaj T. Toward trustworthy AI development: mechanisms for supporting verifiable claims. arXiv preprint arXiv:2004.07213. 2020 Apr 15.
- [50] Zakir MH, Bashir S, Nisar K, Ibrahim S, Khan N, Khan SH. Navigating the Legal Labyrinth: Establishing Copyright Frameworks for AI-Generated Content. *Remittances Review*. 2024 Jan;9(1):2515-32.
- [51] Sun H. Redesigning copyright protection in the era of artificial intelligence. *Iowa L. Rev.*. 2021;107:1213.
- [52] Hu X, Neupane B, Echaiz LF, Sibal P, Rivera Lam M. Steering AI and advanced ICTs for knowledge societies: A Rights, Openness, Access, and Multi-stakeholder Perspective. UNESCO Publishing; 2019 Nov 28.
- [53] Mahala A, Chauhan B. AI-Generated innovations: developing intellectual property (IP) protection framework for the digital age. *International Cybersecurity Law Review*. 2025 Apr 22:1-7.
- [54] Rossi E, Bianchi M. The Role of Intellectual Property Law in Protecting AI Innovations in the Digital Economy. *Legal Studies in Digital Age*. 2024 Apr 1;3(2):30-7.