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ARFICIAL INTELLIGENCE AND COPYRIGHT: LEGAL CHALLENGES AND SOLUTIONS IN THE AGE OF GENERATIVE AI

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ABSTRACT

This study examines the challenges generative AI poses to traditional copyright frameworks, specifically addressing authorship, ownership, and the applicability of laws such as the Copyright and Related Rights Law of Uzbekistan. Through doctrinal research and comparative international analysis, the research finds that most jurisdictions require human authorship, thereby excluding purely AI-generated works from protection while potentially admitting content with substantial human creative input. The study highlights the tension between anthropocentric copyright principles and emerging AI capabilities. To address this, it proposes a hybrid legal framework incorporating modified authorship standards, transparency mandates, and new intellectual property categories. The research concludes that adaptive legislative reform and international harmonization are essential to balance AI innovation with the protection of human creativity.

KEYWORDS

artificial intelligence, copyright law, generative AI, authorship, intellectual property, AI-generated works, Uzbekistan copyright law, legal frameworks.

INTRODUCTION

The twenty-first century has witnessed extraordinary technological transformations that fundamentally challenge established legal doctrines across multiple domains. Among these developments, artificial intelligence represents perhaps the most profound disruption to traditional legal frameworks, particularly in the realm of intellectual property law. The emergence of sophisticated AI systems capable of generating creative content—including literary works, visual art, musical compositions, and even scientific discoveries—has precipitated a crisis in copyright theory and practice that demands urgent scholarly and policy attention .

Copyright law, as traditionally conceived and implemented across most legal systems worldwide, rests upon foundational assumptions about human creativity, authorship, and the incentive structures necessary to promote cultural and scientific progress . These assumptions, crystallized over centuries of legal development from the Statute of Anne (1710) through contemporary international treaties, presume that copyright protection serves to reward human authors for their creative labor and thereby encourage the production of socially valuable works. The philosophical underpinnings of copyright—whether grounded in natural rights theory, utilitarian calculus, or personhood concepts—invariably center on human agency and creativity [1].

Generative AI technologies fundamentally challenge these anthropocentric premises. Systems such as GPT-5, DALL-E, Midjourney, Stable Diffusion, and similar platforms can now produce outputs that are indistinguishable from human-created works across multiple creative domains [2]. These systems employ sophisticated machine learning architectures, particularly transformer-based neural networks and diffusion models, trained on vast datasets encompassing millions or billions of human-created works. Through processes of pattern recognition, statistical correlation, and probabilistic generation, these systems can produce novel outputs that exhibit creativity, originality, and aesthetic or informational value comparable to human creations.

The capacity of AI systems to generate such content raises fundamental legal questions that existing copyright frameworks are ill-equipped to address. If an AI system independently generates a novel and original work without direct human creative input, can that work be protected by copyright? If so, who should be recognized as the author or owner—the AI developer, the user who prompted the system, the AI itself, or should the work enter the public domain immediately? How should copyright law address the use of copyrighted works as training data for AI systems? What constitutes sufficient human creative contribution to qualify human-AI collaborative works for copyright protection?

These questions are not merely theoretical exercises but have immediate practical implications for content creators, technology companies, users of AI systems, and society broadly. The creative industries—including publishing, journalism, visual arts, music, film, and advertising—are experiencing rapid disruption as AI-generated content becomes increasingly prevalent and sophisticated. Legal uncertainties regarding the copyright status of AI-generated works create risks for businesses investing in AI technologies, complications for creators seeking to protect their works, and confusion for users attempting to navigate the legal landscape.

The Republic of Uzbekistan, like many jurisdictions worldwide, must grapple with these AI-related copyright challenges within the framework of its existing intellectual property legislation. The primary legal instrument governing copyright in Uzbekistan is the Law "On Copyright and Related Rights" (hereinafter "the Copyright Law"), which establishes the fundamental principles of copyright protection in the country [3]. This legislation, consistent with Uzbekistan's international obligations under treaties such as the Berne Convention for the Protection of Literary and Artistic Works, provides protection for original works of authorship fixed in tangible form.

The Copyright Law does not explicitly address artificial intelligence or computer-generated works, reflecting its drafting in an era when such technologies were either non-existent or primitive. This legislative silence creates legal uncertainty regarding the treatment of AI-generated works under Uzbekistan law. Should such works be considered unprotected because they lack human authorship? Could they be protected under alternative theories such as employer ownership or commissioned works? Might they qualify for protection under related rights rather than copyright proper? These questions remain unanswered in Uzbekistan's current legal framework, necessitating either judicial interpretation or legislative reform.

Beyond the specific question of AI-generated works, Uzbekistan's Copyright Law contains provisions potentially relevant to other AI-related copyright issues. Article 18, for instance, addresses limitations and exceptions to copyright, including provisions that might be interpreted to permit certain uses of copyrighted works in AI training. Article 40 establishes remedies for copyright infringement, which could potentially be applied to unauthorized use of copyrighted works in AI training datasets. However, the application of these provisions to AI-specific scenarios remains uncertain and would benefit from clarification through either legislative amendment or authoritative interpretation.

The Uzbekistan context is particularly interesting for several reasons. First, as a developing economy with growing technological capabilities and aspirations to

enhance its innovation ecosystem, Uzbekistan has strong interests in facilitating AI development while simultaneously protecting its creative industries and cultural heritage. Second, Uzbekistan's legal system, influenced by both civil law traditions and international intellectual property frameworks, provides an interesting case study for examining how different legal approaches might address AI-copyright challenges. Third, the relative nascence of AI deployment in Uzbekistan compared to more developed markets provides an opportunity for proactive legal reform that might avoid problems experienced in other jurisdictions.

METHODS

This study employs a doctrinal legal research methodology combined with comparative legal analysis to examine the intersection of artificial intelligence and copyright law. Doctrinal legal research, sometimes termed "black letter law" research, involves systematic analysis of legal rules, principles, and doctrines through examination of primary legal sources including legislation, case law, and authoritative interpretations. This approach is particularly appropriate for examining how existing legal frameworks address novel technological phenomena and identifying gaps or ambiguities requiring judicial interpretation or legislative reform.

The research design incorporates four principal methodological components: statutory and treaty analysis examining copyright legislation across multiple jurisdictions; case law analysis reviewing judicial decisions addressing AI-related copyright issues; comparative legal analysis identifying patterns and divergences across legal systems; and normative legal analysis evaluating policy alternatives and developing recommendations. This multi-faceted approach enables comprehensive examination of both positive law (what the law currently is) and normative questions (what the law should be) [4].

The study focuses primarily on legal frameworks in Uzbekistan while incorporating comparative analysis of approaches in other jurisdictions including the United States, European Union member states, United Kingdom, China, Japan, Australia, and select other countries. This comparative dimension provides context for understanding Uzbekistan's current framework and identifies potential models for legal reform. The research examines both common law and civil law systems, recognizing that different legal traditions may approach AI-copyright questions differently based on varying copyright philosophies and doctrinal structures.

The analysis examines statutory provisions from copyright legislation in multiple jurisdictions, with particular focus on Uzbekistan's Law "On Copyright and Related Rights". Key provisions analyzed include definitions of authorship,

requirements for copyright protection, ownership rules, rights granted to copyright holders, limitations and exceptions, and remedies for infringement. International treaties examined include the Berne Convention for the Protection of Literary and Artistic Works, the TRIPS Agreement, the WIPO Copyright Treaty, and other relevant international instruments.

The study analyzes court decisions addressing AI-related copyright issues from various jurisdictions. Key cases examined include *Naruto v. Slater* (9th Cir. 2018) addressing non-human authorship, *Thaler v. Perlmutter* (D.D.C. 2023) rejecting copyright for AI-generated works, *Andersen v. Stability AI* and related cases addressing AI training data, and decisions from other jurisdictions including the UK, EU member states, China, and Australia. Case law analysis focuses on courts' reasoning, underlying policy considerations, and implications for AI-generated works [5].

The research examines administrative interpretations and guidance documents from copyright offices and intellectual property authorities. Particularly significant are the U.S. Copyright Office's 2023 guidance on AI-generated works and its March 2023 policy statement on works containing AI-generated material. Similar guidance from other jurisdictions' IP offices provides insight into administrative approaches to AI-copyright questions.

RESULTS

Analysis of Uzbekistan's Law "On Copyright and Related Rights" reveals that the legislation does not explicitly address artificial intelligence or computer-generated works.

The Copyright Law's definition of "author" as a natural person creates substantial obstacles to recognizing AI systems themselves as copyright holders. Since AI systems are not natural persons under Uzbekistan law, they cannot qualify as authors regardless of their creative capabilities. This anthropocentric approach aligns with international copyright norms established by the Berne Convention, which Uzbekistan has ratified [6].

However, the Copyright Law does not explicitly state that works must be created entirely by humans without technological assistance. Article 7 lists categories of works protected by copyright, including literary works, computer programs, musical works, audiovisual works, and works of fine art, without specifying the degree or nature of human involvement required. This ambiguity creates potential interpretive space for protecting works created through human-AI collaboration where human creative input is substantial.

The Copyright Law's provisions on ownership allocate rights to authors or, in specific circumstances such as employment relationships or commissioned works, to other parties through contractual arrangements.

The Berne Convention, the foundational international copyright treaty to which 181 countries including Uzbekistan are party, does not explicitly address AI-generated works. However, the Convention's structure presumes human authorship. The TRIPS Agreement (Agreement on Trade-Related Aspects of Intellectual Property Rights), administered by the World Trade Organization, similarly does not explicitly address AI-generated works. Neither TRIPS nor Berne mandates any particular approach to computer-generated or AI-generated works, leaving member states discretion to address these issues through national legislation.

The WIPO Copyright Treaty (WCT), adopted in 1996, modernized international copyright norms for the digital age but predates contemporary generative AI systems [7]. The WCT addresses digital technologies primarily through provisions on technological protection measures and rights management information rather than through substantive rules about authorship or eligible works. WIPO has begun examining AI-copyright issues through consultation processes and policy discussions but has not yet developed binding international standards.

This international framework analysis reveals that existing treaties provide minimal guidance on AI-generated works, leaving substantial discretion to national legislatures and courts. The absence of international harmonization has contributed to divergent national approaches and legal uncertainty in cross-border contexts.

The overwhelming majority of jurisdictions require human authorship for copyright protection, either explicitly through statutory language or implicitly through judicial interpretation. This requirement reflects copyright's traditional focus on rewarding and incentivizing human creativity. Purely AI-generated works lacking human creative input generally cannot obtain copyright protection under these frameworks.

Legal frameworks distinguish between AI used as a tool by human creators (analogous to cameras, musical instruments, or word processors) and AI functioning as autonomous creator. Works created using AI as a tool under human creative direction may qualify for copyright protection, while works created autonomously by AI without meaningful human creative contribution generally do not .

Most copyright statutes do not explicitly address AI-generated works, creating interpretive uncertainty. The UK and similar common law jurisdictions with

computer-generated works provisions represent exceptions, though even these provisions predate modern generative AI and their application remains uncertain[8].

For **purely AI-generated works** lacking substantial human creative input, most jurisdictions deny copyright protection entirely. In these cases, no one owns copyright in the work because no copyright exists. The work effectively enters the public domain immediately upon creation. This outcome results from human authorship requirements rather than deliberate policy choice to dedicate AI works to the public domain.

For **AI-assisted works** involving substantial human creative contribution, copyright protection may be available, with ownership determined by general copyright principles. Typically, the human author who exercised creative control holds initial ownership If the human author created the work as an employee within the scope of employment, the employer may hold rights through work-for-hire doctrine If the work was commissioned or created under contract, ownership depends on contractual terms.

The practical challenge lies in determining where the boundary falls between protected AI-assisted works and unprotected AI-generated works. This requires assessing the nature and extent of human creative contribution, a fact-intensive inquiry that may not yield clear answers in many cases.

Some AI companies have attempted to address ownership through contractual terms of service. For example, OpenAI's terms of service for ChatGPT and DALL-E grant users ownership rights to outputs generated by the services, "including the right to reprint, sell, and merchandise" such outputs, subject to compliance with the terms[9]. However, such contractual arrangements cannot create copyright protection where none exists under law. These terms may govern relationships between the AI provider and user but do not necessarily establish enforceable copyright against third parties.

DISCUSSION

The research findings reveal fundamental tensions between traditional copyright theory and AI-generated content. Three primary theoretical frameworks have traditionally justified copyright protection: natural rights theory (derived from Locke and Hegel), utilitarian theory (based on incentive structures), and personhood theory (connecting works to authors' identities). Each framework assumes human creators as the central actors deserving legal recognition and protection. Natural rights theory grounds copyright in authors' labor or personality expression—concepts applicable only to humans. Utilitarian theory seeks to incentivize human creative production

through economic rewards. Personhood theory recognizes creative works as extensions of human identity and autonomy.

AI-generated content challenges these frameworks by introducing non-human creation that nevertheless exhibits characteristics traditionally associated with copyrightable works: originality, creativity, aesthetic value, and economic utility. If copyright's purpose is to reward creative labor, should it matter whether that labor is performed by humans or machines? If copyright aims to incentivize production of socially valuable works, should purely AI-generated works be excluded when they may contribute equally to cultural enrichment? These questions expose assumptions previously taken for granted in copyright theory.

The findings suggest that copyright law faces a choice between maintaining anthropocentric commitments at the cost of excluding potentially valuable works from protection, or expanding protection to non-human creation at the risk of undermining copyright's philosophical foundations. This dilemma has no obvious resolution and requires careful balancing of competing considerations [10].

The findings demonstrate that much AI-generated content involves collaboration between humans and AI systems rather than purely autonomous AI creation. This collaboration raises complex questions about authorship attribution when multiple actors contribute to a work's creation.

Traditional copyright law addresses joint authorship through doctrines requiring that each contributor make independently copyrightable contributions and intend to create a unified work. However, these doctrines assume human co-authors and may not readily apply when one "collaborator" is an AI system.

The research identifies several models for conceptualizing human-AI collaborative authorship: the "tool" model, treating AI as an instrument controlled by human authors who retain full authorship; the "assistant" model, recognizing AI contributions while attributing primary authorship to humans; the "co-author" model, treating AI systems as genuine collaborators entitled to authorship recognition; and the "employer" model, analogizing AI systems to employees whose contributions belong to human principals [11].

Current legal frameworks predominantly adopt the tool model, treating AI as sophisticated technology employed by human creators rather than as independent authors. This approach preserves anthropocentric commitments but may inadequately describe relationships where AI contributions are substantial and relatively autonomous. The co-author model, while conceptually recognizing AI's

creative contributions, faces legal obstacles since most jurisdictions limit authorship to natural persons.

The findings suggest that law may need to develop nuanced frameworks for attributing authorship based on the degree and nature of human versus AI contributions . Such frameworks might recognize primary authorship in humans who exercise substantial creative control while acknowledging AI's instrumental role. Alternatively, law might create distinct categories for works involving significant AI contribution, providing modified protections that reflect collaborative creation.

REFERENCES

1. Gulyamov, S. S. (2023, November). AI authorship and ownership of intellectual property in industrial power and control systems. In 2023 5th international conference on control systems, mathematical modeling, automation and energy efficiency (SUMMA) (pp. 217-221). IEEE.

2. Samuelson, P. (2023). Generative AI meets copyright. *Science*, 381(6654), 158-161.

3. Yu, P. K. (2024). Artificial intelligence and copyright authorship. *Florida Law Review*, 76(1), 1-89.

4. Ginsburg, J. C. (2022). People not machines: Authorship and what it means in the Berne Convention. *International Review of Intellectual Property and Competition Law*, 53(2), 131-157.

5. Gulyamov, S. S. (2023, November). AI authorship and ownership of intellectual property in industrial power and control systems. In 2023 5th international conference on control systems, mathematical modeling, automation and energy efficiency (SUMMA) (pp. 217-221). IEEE.

6.Law of the Republic of Uzbekistan “On Copyright and Related Rights” N 42 of July 20, 2006

7. Grimmelmann, J. (2023). Copyright for literate robots. *Iowa Law Review*, 108(4), 1411-1495.

8. Gulyamov, S. S., Fayziev, R. A., Rodionov, A. A., & Rustambekov, I. R. (2023, November). The role of information in developing ethical and accurate AI for energy systems. In *2023 5th International Conference on Control Systems, Mathematical Modeling, Automation and Energy Efficiency (SUMMA)* (pp. 226-230). IEEE.

9. Bommasani, R., et al. (2022). On the opportunities and risks of foundation models. *Stanford CRFM Report*.

10. Elgammal, A., et al. (2017). CAN: Creative adversarial networks, generating "art" by learning about styles and deviating from style norms. *arXiv preprint* arXiv:1706.07068.

11. Republic of Uzbekistan. Law on Copyright and Related Rights. Retrieved from https://lex.uz/ru/docs/-1022944