Generative Artificial Intelligence: Its Pitfalls and Impact on Intellectual Property Law

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I. Introduction to generative artificial intelligence ("GAI")
   a. Artificial intelligence encompasses any theory, computer system, or software that is developed to perform tasks that traditionally required human intelligence. Generative artificial intelligence technology is a subset of this technology.
   b. Traditional artificial intelligence works within a defined set of "rules" implemented at the time of the program's creation
      i. Its purpose is to analyze and understand the input data by observing and classifying patterns in the data.
      ii. These programs have the capacity to learn from the input information, but their output is limited to analysis or predictions based upon the input data.
      iii. They cannot create anything new or not already within its input database
   c. GAI is an algorithm that can be used to create ***new*** content based upon patterns the program learns from its database of input information
      i. GAI is not confined to the boundaries of pre-established rules.
      ii. The output is more than a regurgitation—it is a wholly original response specifically tailored to the user's prompt.
      iii. Large language model ("LLM")—a type of GAI trained on text data to generate new text; can mimic a particular author or genre
      iv. Generative Pre-trained Transformer ("GPT") is a type of LLM
   d. Teaching or training GAI relies upon past inputs (data that has been uploaded to the program) to create a database of information
      i. This database of inputs informs the program's output.
      ii. GAI models also "learn" from user prompts, adjusting in response to variations in user requests

II. Brief overview of GAI's benefits
   a. Traditional artificial intelligence technology was able to compile and analyze data, but humans were still necessary to expand upon those findings. GAI removes the need for human involvement in the development of new content.
      i. Can streamline tasks that previous required substantial manpower, time, and resources.
      ii. Create systems that increase efficiency and reduce associated costs, freeing up resources that can be dedicated elsewhere.
   b. Revolutionary because of its ability to produce high level content, closer in quality to human produced content than any algorithm ever before; GAI has

increased ability to understand natural language, which, historically, was a skill that only humans could provide.

III. Generative artificial intelligence's current limitations and failures
    a. GAI still cannot consistently or reliably create content without substantial inaccuracies, racial and gendered biases, or outright fabrications.
        i. This is likely because GAI programs still cannot consistently sort reliable information from misinformation.
        ii. There is pervasive evidence documenting that current GAI programs produce material that demonstrates biases that perpetuate or amplify Western stereotypes.
    b. GAI has a tendency to manipulate input images into output that is "bizarre and grotesque." (*Getty Images (US), Inc. v. Stability AI, Inc.*, 1:23-cv-00135-JLH, District of Delaware)
    c. Also has a tendency to "hallucinate," or make up data to include in its output.
        i. Partially because of false or inaccurate input data; GAI does not have the capacity to determine what is true or false.
        ii. Hallucinations are difficult to discern as models will integrate false information with accurate facts, blur details, or conflate historical individuals, events, and ideas.
    d. Developers are working to address these issues and have develop a new method for detecting when an AI tool is likely to be hallucinating with a 79% success rate.

IV. Potential legal liabilities resulting from use of GAI
    a. High risk of intellectual property infringement liability, particularly with respect to infringement of copyright protected works (see Section V)
    b. United States federal law still does not address use of GAI, though lawmakers have proposed legislation addressing various issues.
        i. violations of rights to privacy
        ii. creation of false depictions of sexually explicit content
        iii. defamation claims
        iv. election interference
    c. Right to privacy: "No A.I. FRAUD Act" (No Artificial Intelligence Fake Replicas And Unauthorized Duplications Act), H.R. 6943, introduced January 2024
        i. The right to privacy can include an individual's right to publicity and the right to both protect and monetize one's name/image/likeness ("NIL").
        ii. Difficult issue to address in the U.S., as the extent of your right to privacy, and the ability to protect it, is controlled by state statute or state common law; currently there is no federal law that grants a right to privacy or publicity nationwide.
    d. Use of "deepfakes"—deceptive AI-generated or AI-altered content, usually featuring individuals NIL without their consent

i. If used against a private individual, state right to privacy laws can provide a remedy.
ii. In instances where deepfakes are used to commercially promote products or service, they can constitute false endorsement under Section 43(a) of the Lanham Act. (15 U.S.C. § 1125)

e. Sexually explicit deepfakes are, again, almost always without the individual's consent. A few states have enacted laws prohibiting sexually explicit deepfakes.
i. California and New York state laws grant victims a civil claim;
ii. Georgia and Virginia state laws impose criminal liability upon the creators and distributors of sexually explicit deepfakes.

f. Deepfakes may also give rise to liability under state defamation laws if used to disseminate reputation-damaging falsehoods about a person.

g. Proposed federal legislation on deepfakes
i. Section 1309 of the federal Violence Against Women Act Reauthorization Act of 2022 ("VAWA 2022") created a civil claim for nonconsensual disclosure of "intimate visual depictions."
ii. "Preventing Deepfakes of Intimate Images Act, " H.R. 3106, introduced May 2023: further amends VAWA 2022 to create a separate civil claim for disclosing certain "intimate digital depictions" without the written consent of the depicted individual, as well as providing criminal liability for certain actual or threatened disclosures.
iii. "The Protect Elections from Deceptive AI Act," was introduced to address rising concerns that A.I. will be used to generate materially deceptive content to influence federal elections—we did not see as much fallout this election cycle as expected

V. Generative artificial intelligence and intellectual property infringement
a. Intellectual property infringement is rampant in both the input data and GAI models' output; GAI has infringed upon copyright protected material and trademarks, though copyright infringement is more common
i. Currently no regulation on the training of GAI or the use of data protected under United States federal copyright and trademark law
ii. The majority of models have been trained using infringing input information and thereby routinely create potentially infringing output.

b. Trademark infringement claims under the Lanham Act (15 U.S. Code § 1114); most commonly, GAI misappropriates marks and applies them to GAI generated content, potentially deceiving consumers to believe that the content was produced by the mark owner, rather than GAI

VI. GAI routinely creates output that is riddled with copyright infringement.
a. Under United States federal law, new work based upon an existing copyright protected work constitutes a derivative work. The right to create derivative work is reserved exclusively to the copyright owner. (17 U.S.C. § 106).

b. Copyright protected material is particularly susceptible to infringement by GAI.
    i. Nonconsensual use of copyright protected work is problematic even in just one instance.
    ii. Once copyrighted material is input to a model, that input data is indefinitely available to create future output.
c. Exceptions to copyright infringement
    i. The fair use doctrine (17 U.S.C. § 107) outlines instances in which copyrighted material can be used without permission or a license from the rights holder.
    ii. The use of copyright protected works to create "transformative works" or innovations that are substantially different from the original work, constitutes fair use. (*See* 17 U.S.C. § 107; *Campbell v. Acuff-Rose Music*, Inc., 510 U.S. 569 (1994).)
d. The Digital Millenium Copyright Act ("DMCA") sets forth a procedure to enforce copyright rights against infringing bad actors online.
    i. It also created statutory protection for third party platforms from liability when its users engage in infringing activity on that platform.
    ii. The purpose of the DMCA is to protect against the unauthorized dissemination of copyright protected materials.
e. GAI does not fall neatly into the parameters of the DMCA
    i. GAI can unlawfully disseminate the original work and/or create a derivative work.
    ii. Output does not necessarily result in a website or posting that the copyright owner can demand to have taken down under the DMCA. (17 U.S.C. § 512)

VII. Pending copyright infringement litigation against GAI developers and owners
a. BakerHostetler's Case Tracker: Artificial Intelligence, Copyrights and Class Actions (https://www.bakerlaw.com/services/artificial-intelligence-ai/case-tracker-artificial-intelligence-copyrights-and-class-actions/)
b. One of the first GAI lawsuits in U.S.—*Getty Images (US), Inc.* v. *Stability AI, Inc.*, 1:23-cv-00135-JLH, District of Delaware
    i. Getty Images alleged Stability AI used Getty's intellectual property to train the image generators Stable Diffusion and DreamStudio.
    ii. Copyright infringement claim: Stability AI input 12 million+ photographs, associated captions, and metadata to train its models
    iii. Trademark infringement claim: Stability AI's models replicate Getty Images' watermarks in their outputs.
c. Majority of lawsuits are against OpenAI, creator of ChatGPT, and its partner Microsoft
    i. OpenAI has not disclosed publicly the data used to train ChatGPT.
    ii. It has admitted to using copyrighted materials as part of its training data.

d. *Alter v. OpenAI Inc.*, No. 1:23-cv-10211, Southern District of New York, consolidated with *Authors Guild v. OpenAI Inc.*, No. 1:23-cv-08292 and *Basbanes v. Microsoft Corporation*, No. 1:24-cv-00084; also *Chabon v. OpenAI, Inc.*, No. 3:23-cv-04625, Northern District of California.
    i. *Alter*: Various prominent authors alleged that the use of their copyright protected material to train OpenAI's programs could result in the creation of "derivative works" that mimic the authors' books, which could potentially harm the market for the authors' works.
    ii. *Chabon*: similar claims by additional authors again OpenAI and Meta (parent company of Facebook and Instagram)
e. *New York Times Company v. Microsoft Corporation et al*, No. 1:23-cv-11195, Southern District of New York; *The Intercept Media, Inc. v. OpenAI, Inc.*, No. 1:24-cv-01515, U.S. District Court for the Southern District of New York; *Raw Story Media, Inc. v. OpenAI, Inc.*, No. 1:24-cv-01514, U.S. District Court for the Southern District of New York.
    i. *New York Times*: claimed copyright infringement, alleging that millions of *New York Times* articles were used to train programs that now generate outputs that recite NYT content verbatim, closely summarize the New York Times's articles, mimic the paper's expressive style, and falsely attribute outputs to the *Times*
    ii. *Intercept* and *Raw Story*: similar claims under the DMCA
f. Majority of pending lawsuits target technology companies that create and train the GAI models; highly likely that once these cases have been resolved, copyright holders will shift their focus towards GAI users.