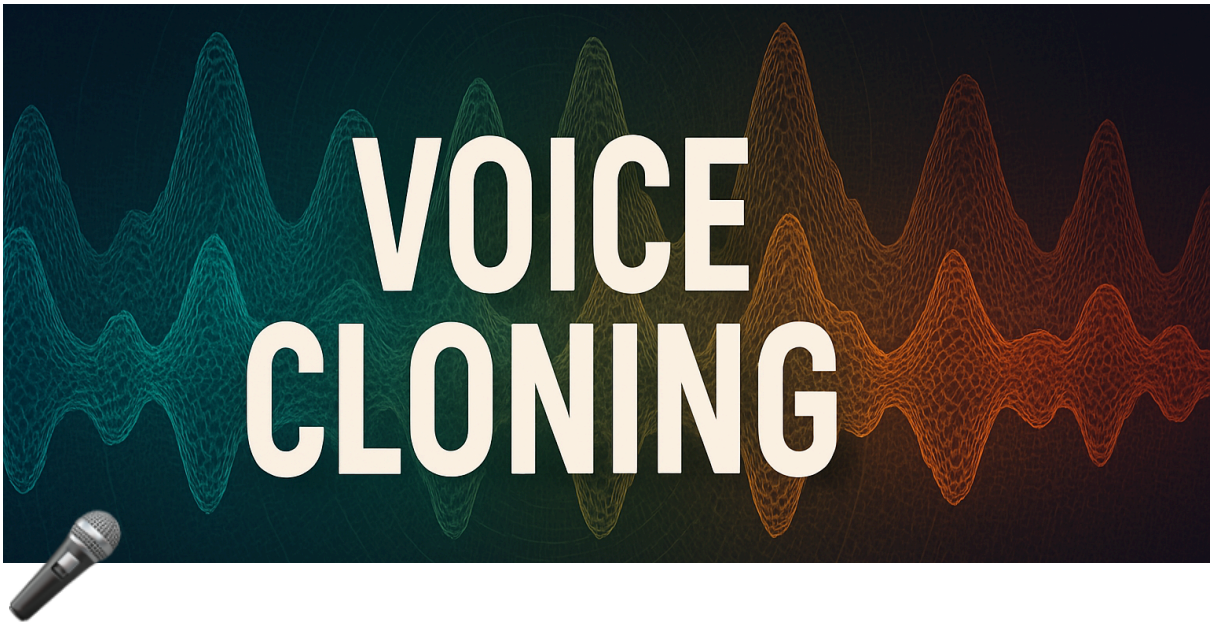

Voice Cloning in Music Production and Film: State of the Art and Industry Perspectives

Introduction

Voice cloning refers to the use of AI to create a synthetic speech or singing voice that closely mimics a specific human voice. Recent advances in deep learning have dramatically improved the realism of cloned voices, making it possible to “replicate specific human voices” with “countless vocal nuances, intonations, pitches, accents, [and] speeds” learned from audio data . In professional music production and film, this technology is emerging as both a creative tool and a disruptive force. In particular, English-language rap and singing have become focal areas, as artists and producers experiment with AI-generated vocals, and studios use voice clones to dub or restore performances. This report surveys the state-of-the-art in voice cloning, from commercial tools to research breakthroughs, and examines real-world applications in music and film. It also addresses the legal and ethical implications of using cloned voices in commercial works, including copyright, licensing, and impersonation concerns that have arisen in 2023–2024.

State of the Art in Voice Cloning Technology

Modern voice cloning systems can produce remarkably natural-sounding speech or song, often from minimal input data. Cutting-edge AI models like Microsoft's VALL-E have demonstrated "high-quality personalized speech from just a 3-second recording" of a target voice . By mid-2024, Microsoft reported its new VALL-E 2 model achieved "human parity" in zero-shot text-to-speech – meaning the synthetic voice was virtually indistinguishable from a real human speaker given a short sample . In the realm of singing, specialized models have also progressed. The international Singing Voice Conversion Challenge 2023 found that the top systems could achieve "human-level naturalness" in generated vocals, though they still couldn't match the authenticity of a real singer's timbre . These advances are driven by sophisticated neural networks (often utilizing GANs, diffusion models, or transformer architectures) that learn to capture a singer's unique tone and style. In practice, voice cloning can be done via text-to-speech (generating speech or singing from text using a cloned voice) or voice-to-voice conversion (transforming one performer's vocals into the target voice while preserving the performance). Both approaches are used in industry today, enabling applications from virtual rap vocals to resurrecting classic film characters.

Commercial Voice Cloning Tools and Services

A number of AI voice cloning tools have become commercially available to musicians, producers, and studios. Below are some of the leading platforms and their use cases:

- Respeecher: A speech-to-speech voice cloning service known for its Hollywood projects. Respeecher's technology allows one person to "speak in the voice of another" by training on target voice recordings . It has been used by Disney/Lucasfilm to recreate iconic voices (e.g. a young Luke Skywalker and Darth Vader) and even for a cross-lingual singing project. In March 2022, Respeecher enabled singer Aloe Blacc to perform the late Avicii's song in multiple languages using a cloned version of Avicii's voice . It was also employed to generate James Earl Jones's 1970s-era Darth Vader voice for Obi-Wan Kenobi (2022) after the 91-year-old actor "signed over the rights to his archival voice work" to allow AI replication .
- Resemble AI: A custom voice AI platform that offers speech synthesis for entertainment. It famously recreated artist Andy Warhol's voice to narrate The Andy Warhol Diaries (Netflix 2022) from only a few minutes of archival

audio . Resemble's system was tuned to match Warhol's flat intonation, satisfying the director's performance requirements . The company provides an API for developers and has been used in games and advertising as well. (In 2023, Resemble's tech also contributed to a Polish dub of Cyberpunk 2077, reviving a deceased voice actor's performance with family consent .)

- Sonantic (Spotify): A startup known for creating expressive voice clones. Sonantic partnered with actor Val Kilmer in 2021 to build an AI model of his voice, after he lost his voice to throat cancer . For Top Gun: Maverick (2022), Sonantic "fed hours of Kilmer's archival recordings through an A.I. to generate a voice model" that could speak new lines in Kilmer's tone . The result was used briefly in the film to allow Kilmer's character to speak again on screen. Sonantic's success led to it being acquired by Spotify in 2022 , presumably to bolster Spotify's offerings in AI-driven audio (such as automatically generated podcast voices or translations).
- ElevenLabs: An AI voice generator platform that gained popularity in 2023 for its very realistic text-to-speech voices. ElevenLabs allows users to clone a voice with just a few minutes of audio. The cloned voices are highly natural in expression and can even perform emotional intonations based on context . This technology has quickly found real-world use: for example, Nike used ElevenLabs to create a clone of NBA star Luka Dončić's voice for a shoe campaign, and the New York City Mayor's Office used it to generate multilingual robocall messages in the mayor's own voice . The Atlantic and Washington Post use ElevenLabs to narrate some articles in a human-sounding voice . ElevenLabs' quality also raised concern due to misuse – in early 2023, anonymous trolls used it to produce fake voices of celebrities saying offensive things, highlighting the need for safeguards. (Note: ElevenLabs focuses on speech; for singing vocals, other specialized tools are used.)
- Descript Overdub: Part of the Descript audio editing software, Overdub allows creators to train a voice clone of themselves by recording a few dozen sentences. It's marketed for podcasters and video creators to "digitally recreate their voices" for edits or new lines . Overdub intentionally requires consent and training by the voice owner, positioning itself as a ethical tool (as opposed to cloning someone else without permission). It has been used in radio and podcast production to fix narration or add new dialogue seamlessly in the host's voice.

- Voicemod AI Voices: Voicemod (known for voice changer effects) introduced AI voices that can transform a user's speech in real-time. Some of its models mimic styles of rappers or characters. While intended for streaming and gaming, such technology shows the accessibility of real-time voice cloning. The Verge noted tools like Voicemod and Veritone (which offers a platform called MARVEL.ai for celebrity voice clones) are "emerging as ways for celebrities and creators to digitally recreate their voices" – for example, actors could license their AI voice for advertising in multiple languages via Veritone.
- Open-Source Projects: Beyond commercial services, the AI community has open projects for voice cloning. Implementations of research like SV2TTS and so-vits-svc (singing voice conversion) became widely available in 2023, allowing anyone with a GPU and audio samples to train a voice model. These tools have powered the explosion of AI-generated song covers on YouTube and TikTok – for instance, hobbyists have released covers of songs using cloned voices of famous rappers/singers. While quality varies, some results are startlingly good, reflecting the trickle-down of state-of-the-art techniques to the public. (One popular open model, RVC, lets users "sing like your favorite singer" by converting vocals to a target voice .)

Voice Cloning in Music Production (Rap and Singing)

AI-cloned vocals are increasingly being used – both legitimately and experimentally – in music production. For professional artists and producers, one attraction is creative flexibility: a vocalist's voice can be treated as a manipulable instrument or even "morphed to create new vocal timbres", as researchers describe . Here we outline how voice cloning is being applied in music, with an emphasis on rap and singing, and provide real-world examples:

- Creative Tools for Artists: Some artists have embraced voice cloning to expand their artistic palette. Experimental musician Holly Herndon was an early adopter – in 2021 she released "Holly+", a model of her own voice, and allowed fans to submit audio to hear it sung in her voice . Herndon even set up a system where her DAO (decentralized autonomous organization) members could license and profit from approved uses of the cloned voice . Similarly, in 2023, pop artist Grimes made headlines by announcing "feel free to use my voice without penalty" for AI-generated songs, offering a 50/50 royalty split for any successful track . She launched a website (Elf.tech) to facilitate uploading vocals and receiving a version sung in

Grimes's voice . These cases show artists using cloning tech to collaborate remotely with fans and producers in new ways, essentially creating digital avatars of their vocals.

- Demo Production and Vocal Augmentation: Music producers can use AI voices as high-quality "session vocalists" on demand. For instance, an English songwriter who can't sing in Spanish might write a song and then use a cloned Spanish singer's voice to demo the track. AI voice generators like Kits AI and ACE Studio (emerging in 2024) advertise the ability to "clone voices, sing like anyone" for music creation . Producers can also experiment by swapping vocal styles – for example, turning a pop vocal performance into a gritty rap-style voice, or vice versa, to see how a song's vibe changes. This can all be done in-house with no live performer present.
- Ghostwriters and Fan-Made AI Tracks: In 2023, AI voice cloning burst into the mainstream music conversation via viral fan-made tracks. A pivotal example was "heart on my sleeve," a song released by an anonymous TikTok user called @ghostwriter977. The track featured AI-generated vocals that uncannily imitated superstar rappers Drake and The Weeknd, performing original lyrics . The song went viral in April 2023, racking up millions of streams on TikTok, YouTube, Spotify, and Apple Music. Its success – and the fact that neither artist had any involvement – "became a pivotal case in today's discussions about the legality of AI-generated music" . Universal Music Group (the label) swiftly forced the song off streaming platforms, and issued statements that training AI on their artists' voices or music is a copyright violation . Nonetheless, the incident proved that current AI can mimic top-chart voices well enough to fool casual listeners, especially in rap where the "flow" and tone were convincingly Drake-like. It also demonstrated how quickly such content can spread before legal action intervenes.
- AI Voice Covers and Mimicry: Numerous AI-generated covers circulated online in 2023–2024, often with rap vocals. Fans have used AI to make artists "cover" songs they never sang – for instance, turning a Frank Sinatra song into a Kanye West version, or making Eminem rap the lyrics of a fast-food menu (a trend that went viral on YouTube). While many of these are novelty or meme-worthy, some show striking quality. A TikTok user in 2023 created a fake Taylor Swift song about a breakup (timed to her real-life rumors) by writing lyrics and using an AI model of Swift's voice to sing it . The AI "Taylor" song garnered tens of thousands of views within a day, with

listeners amazed at its realism. Such examples underscore the impersonation capabilities of modern voice clones – raising both creative possibilities (imagine "dream" collaborations like an Elvis cover sung by AI Freddie Mercury) and serious ethical questions.

- Virtual Artists and Studio Projects: The music industry has also toyed with wholly synthetic artists. In 2021, Capitol Records briefly signed FN Meka, an "AI" virtual rapper with millions of TikTok followers. FN Meka's vocals were presented as AI-generated, though it later emerged they were voiced by a human (who was uncredited) and augmented by algorithms . The character was criticized for stereotyping, and the project was cancelled amid backlash – but it signaled major-label interest in AI vocalists. By 2023, real producers have started using voice cloning more directly. Famed hip-hop producer Timbaland experimented with an AI simulation of The Notorious B.I.G.. He posted a video of a new track he made that featured an AI Biggie rap verse over his beat – essentially a posthumous collaboration made possible by cloning Biggie's voice. The reaction was mixed: some fans and fellow artists found it "hard asf," but many called it "disrespectful" or eerie . Despite the criticism, Timbaland defended the experiment as "a real art form" and revealed plans to develop an AI software business to allow more of these projects . He even floated the idea of a full AI-generated Biggie album released song-by-song. This highlights the current split in the professional community – some see AI vocals as a creative frontier to be explored, while others see it as crossing a line of authenticity and consent.

In summary, voice cloning in music is advancing rapidly. English-language rap vocals have been a proving ground, since rap's spoken delivery is amenable to text-to-speech and many producers have a cappella samples of famous rappers to train models. AI can capture not just the tone but also the "unique flow patterns and vocal characteristics" of a rapper , as at least one company claims. For singing, AI conversion can maintain the melody and timing of a source singer but output the timbre of a target singer, enabling seamless vocal substitution. Many top singers and rappers are now aware their voice can be mimicked by anyone with a computer – prompting both collaboration (like Grimes' approach) and protective stances (as discussed in the legal section). The technology is already at a point where producers can integrate AI vocals into professional music projects, whether as background textures, demos for pitching songs to artists, or even final commercial releases (with proper

clearance). The big question that remains is how the industry will navigate the rights and ethics involved.

Voice Cloning in Film and Media Production

In the film, TV, and media industry, voice cloning has gained traction as a practical solution for a variety of production needs. Filmmakers can use AI to recreate voices of actors who are unavailable, de-age an actor's voice to a younger sound, or even revive voices from the past. Likewise, studios are exploring AI voices for localization (dubbing) and narration. Below are key ways voice cloning is used in professional film and media, along with notable case studies:

- Dialogue Replacement and Continuity: During post-production, it's common to re-record dialogue (ADR) if original audio is unusable or new lines are needed. Voice cloning now offers an alternative: generate the new lines using the actor's AI voice. This was utilized in The Mandalorian (Disney+, 2020) when Luke Skywalker made a surprise appearance. Actor Mark Hamill was de-aged on camera, and instead of using Hamill's current older voice, Lucasfilm employed Respeecher to synthesize the voice of young Luke as he sounded in the 1980s . Respeecher trained its model on old recordings of Hamill ("radio broadcasts, interviews, ADRs, and dubs" from his early career) to recreate the youthful tone . The synthetic voice delivered new dialogue lines in The Mandalorian's finale, and again in The Book of Boba Fett (2022), fooling many fans into thinking Hamill had recorded audio decades ago. Similarly, in 2022 Lucasfilm needed fresh Darth Vader lines for the Obi-Wan Kenobi series. Instead of relying on James Earl Jones's current voice (the actor was 91), they got his blessing to use AI. Jones "signed over the rights" to his voice recordings, and Respeecher created an AI model that could perform Vader's lines with the classic menacing timbre from Star Wars circa 1977 . The result was so effective that viewers heard a "villain from 45 years ago" come alive again . In both cases, the AI voices were used with the actors' knowledge and served storytelling purposes that would have been difficult or impossible otherwise.
- Accessibility and Dubbing: Voice cloning also enables actors to "speak" in languages they never learned, for global releases. A notable example is multilingual dubbing with the original voice's characteristics. In 2021, actor Alec Guinness's voice (who died in 2000) was cloned to dub a documentary into German, allowing his "voice" to narrate in another

language – an early experiment in voice cloning for localization. More recently, the NYC Mayor's Office cloned Mayor Eric Adams' voice to deliver public service announcements in Spanish, Yiddish, Mandarin, Cantonese, and Creole – his AI voice "spoke" languages that Adams does not speak, improving outreach while preserving the familiar sound of his voice. In the film arena, studios are testing AI for automated dubbing: an English performance can be translated and then spoken by an AI voice that matches the original actor's tone, potentially revolutionizing foreign-language versions of movies. Companies like Veritone have announced services to generate celebrity voice clones specifically for authorized dubbing and advertising, indicating where the industry is headed.

- Documentary Narration and Biopics: Filmmakers have used voice cloning to let historical figures "speak" in their own words. The Andy Warhol Diaries (2022) is a prime example: the Netflix docuseries used Resemble AI to create an AI voice of Andy Warhol reading from his diary entries . With only a few minutes of Warhol's recorded voice available, the team carefully crafted the model and had an actor "drive" the performance which the AI then converted to Warhol's timbre. The effect was an immersive narration as if Warhol himself were reading aloud, which impressed many viewers (and was done with the approval of the Warhol estate, avoiding major controversy). Another case was the 2021 documentary Roadrunner about chef Anthony Bourdain – the director used AI to synthetically voice a few quotes from Bourdain's emails (since Bourdain never read them aloud before his death). This was controversial when revealed, as the audience wasn't informed during the film that the voice was AI. It raised an ethical debate about consent and transparency, even though the amount of AI-generated audio was small. These examples show the allure of voice cloning in nonfiction: it can literally give voice to the voiceless (whether a deceased person or someone who never recorded certain texts).
- Assisting Ailing Actors: When actors lose their voice or can no longer perform, AI voices can step in. Val Kilmer's story in Top Gun: Maverick illustrates this. Kilmer, who played Iceman, had lost his voice due to throat cancer. Rather than exclude the character, the filmmakers worked with Sonantic to "digitally recreate [Kilmer's] voice". They trained on archival audio and produced an AI voice that sounded like Kilmer in his prime . In the film, Iceman speaks only a brief line, but it packs emotional punch precisely because it's his voice, not another actor's. Kilmer described the AI voice as

a gift that allowed him to communicate again off-screen as well . This kind of assistive use highlights a positive aspect of voice cloning: it can restore voices to those who have lost them (due to illness or injury), with the person's consent. There are ongoing efforts to bank voices of individuals with degenerative diseases (like ALS patients) so that an AI clone can speak for them in their own voice when they no longer physically can – a clearly beneficial application of the tech.

- Animation and Gaming: Though our focus is film, it's worth noting that voice cloning is making inroads in animation and video games, which often use voice actors. In 2022, the game God of War Ragnarök even credited a "Digital Voice Actor" for the first time, after using Respeecher to mimic the voice of a norse character for some lines . Game studios are eyeing AI voices for minor characters or dynamic dialogue that would be impractical to record manually. This has professional voice actors both excited and nervous – some see it as a tool to expand their productivity (they could license their AI voice to perform basic lines while they focus on main roles), while others fear it could replace them without fair compensation. This bleeds into the legal/ethical discussion in the next section.

In film and media, voice cloning technology is thus being used in increasingly sophisticated ways – from resurrecting legendary characters to making production more efficient. As these examples show, consent and creative intent are key: when the technology is used with the collaboration or approval of the voice owner (or their estate), it tends to be celebrated (e.g. Jones safeguarding Vader's legacy, or Kilmer regaining a voice). When done secretly or without permission, it invites backlash. By 2024, many studios have begun drafting policies on AI voice usage, and productions are considering disclosing AI-assisted performances in credits. The capabilities will only grow as the tech improves, so the industry is feeling its way through uncharted territory – balancing innovation with respect for performers.

Legal and Ethical Considerations of Voice Cloning

The rise of voice cloning in music and film has outpaced the development of clear laws and industry standards, leading to a host of legal and ethical questions. Key concerns include: Who owns or controls a cloned voice? Is using someone's voice without permission a form of IP infringement or a violation of their rights? How do we prevent malicious impersonation or protect artists from unauthorized exploitation of their vocal identity? In 2023–2024, these issues have been intensely debated, and we've seen the first attempts at

both legislation and litigation. This section examines the current landscape of copyright law, licensing and publicity rights, notable legal cases, and emerging industry guidelines related to voice cloning.

Copyright and Intellectual Property

Traditional copyright law does not clearly protect an individual's voice. Copyright covers specific creative works (songs, sound recordings, scripts, etc.), but "not the sound of a person's voice" in and of itself – as was established in past cases about impersonation in ads. This means that if an AI generates new audio of Singer X's voice singing a new song, the timbre of that voice isn't a copyrighted entity that Singer X automatically owns. However, there are still IP angles: the recordings used to train the AI are usually copyrighted (owned by labels or the performer). Companies like Universal Music Group have argued that using copyrighted recordings to train an AI without authorization is an infringement – essentially treating the AI model or its output as an unauthorized derivative work . So far, this theory remains untested in court, but UMG's response to the AI Drake song indicates labels are ready to pursue it. In the US, fair use law might allow training on publicly available songs, but it's a gray area whether an AI "learning" from a song is akin to copying it. In absence of definitive law, platforms have erred on the side of caution: after "Heart on My Sleeve" went viral, Spotify and others removed the track and reportedly started detecting and blocking other AI-generated songs that mimic famous voices to avoid potential liability .

Another IP question is whether the AI-generated performance can be copyrighted and by whom. The U.S. Copyright Office has taken the stance that fully AI-generated works (with no human creativity) are not eligible for copyright – they require a human author. In music, this led the Recording Academy (Grammys) to clarify in 2023 that only human creators can win awards: "only 'human creators' are eligible" for Grammy nominations . Songs with AI vocals or instrumentals can be considered only if a human meaningfully contributed to the songwriting or arrangement . This doesn't stop distribution of AI music, but it sets expectations that purely AI productions are not treated as equivalent to human art in terms of awards or copyright. That said, if a human writes a song and just uses an AI voice to perform it, the songwriting is still protected and the sound recording (the AI-rendered track) could be owned/controlled by whoever produced it, similar to how a producer owns a track created with synthesizers. We may soon see artists registering copyrights for sound recordings that feature their AI-cloned voice – which could establish

precedent that a performer can "own" their digital voice's recordings just like normal recordings.

Licensing, Consent, and the Right of Publicity

Apart from copyright, individuals (especially famous performers) have rights to their own likeness and identity, often covered under right of publicity or privacy laws. A voice can be considered part of one's likeness – for example, in Midler v. Ford Motor Co. (1988), singer Bette Midler successfully sued Ford for hiring a soundalike to imitate her voice in a commercial without permission. This set a precedent in California that impersonating a celebrity's distinctive voice in advertising can violate their publicity rights. With AI cloning, the scale of possible impersonation is far greater. Most jurisdictions would likely require consent or licensing to use a person's voice commercially if the use suggests endorsement or exploits their persona.

To clarify this area, in 2024 the state of Tennessee passed a groundbreaking law nicknamed the "ELVIS Act" (Ensuring Likeness Voice and Image Security Act) – the first of its kind explicitly protecting a person's voice from AI misuse . The ELVIS Act defines an individual's voice (both their actual voice and any "simulation" of it) as a property right. Using someone's voice or voice clone in content without consent can trigger civil lawsuits and even criminal penalties in Tennessee . This law, inspired by the desire to protect iconic performers (like Elvis Presley, whose estate is in TN), took effect July 1, 2024 . It means, for instance, releasing a song with an AI Elvis voice without permission could lead to legal action in that state. Other states (and countries) are considering similar updates to publicity rights to encompass digital replicas. These laws give artists and their heirs more control – they can choose to license their voice to projects (potentially for royalties) or sue those who use it without clearance. Indeed, James Earl Jones' decision to contractually permit Disney to use his voice model for Darth Vader is a form of licensing the right to his voice, likely with compensation and approval clauses.

We're also seeing the industry unions step in. SAG-AFTRA (the union for screen and voice actors) has been actively negotiating AI voice rights. In January 2024, SAG-AFTRA announced a milestone agreement with Replica Studios (an AI voice firm) that allows union actors to license their digital voice replicas for specific uses . Under this deal, actors can get paid for letting Replica create AI models of their voice, which can then be used in video game development and other approved contexts . Crucially, it requires transparency and actor consent for each use, and it excludes certain impromptu uses (like dynamic AI dialogue

that isn't pre-scripted) pending further negotiation . This agreement – and another with a company called Ethovox – caused debate among voice actors, but SAG-AFTRA framed it as "groundbreaking" in establishing new revenue streams rather than letting tech companies exploit voices freely . By late 2023, the union's stance (reinforced in its strike demands with Hollywood studios) is that performers must give informed consent for any AI use of their voice or likeness and should be compensated. We can expect future contracts to include explicit clauses about digital replicas.

From an ethical standpoint, consent is the dividing line between acceptable and unacceptable use of voice cloning in the arts. Projects like the Warhol Diaries or Vader in Obi-Wan went smoothly in part because the people involved (or their estates) agreed to it. By contrast, when a designer used AI to make rapper Jay-Z's voice rap Shakespeare and posted it online in 2020, it prompted a takedown by Roc Nation claiming unauthorized use of his likeness. As one musician quoted, "My voice is my livelihood and identity – using it without asking is not okay." Going forward, we're likely to see more frameworks where artists can opt in to voice cloning projects (perhaps even registering their AI voice models with companies or labels) so that usage can be monitored and monetized, akin to a new form of licensing (somewhat like how sample clearances work in music).

Misuse, Impersonation, and Ethical Issues

The ability to impersonate anyone's voice brings obvious abuse potential – from trivial prank memes to fraud and defamation. In the context of professional music and film, the concerns are more about misrepresentation and authenticity. For example, could someone release an AI-generated song that consumers mistake for a real track by a famous artist? This already happened with the fake Drake song – many listeners thought it was a leaked official track. Not only does that raise consumer protection issues, it also could dilute the artist's brand (by flooding the market with "AI songs" under their voice). There are also reputational risks: a malicious actor could produce a song or video with a cloned voice of Artist X saying offensive or false things, which might go viral before it's debunked. This is why impersonation scams are a key ethical issue. The U.S. Federal Trade Commission even issued warnings in 2023 about AI voice clones being used in telephone scams (e.g. cloning a celebrity or a person's family member asking for money). While not specific to music/film, it underscores how realistic the voices have become – enough to fool even acquaintances over a phone line.

In creative media, a more nuanced ethical debate is over transparency and artistic integrity. Many argue that if an AI voice is used, the audience or consumers have a right to know. After the Anthony Bourdain documentary incident, some critics felt duped that they emotionally reacted to "hearing Bourdain's voice" which in fact was synthesized – suggesting it should have been disclosed in the film. In music, fans might feel differently about a song if they know the vocals were generated by a computer versus actually sung by the artist. Some purists argue that music performed by an AI (even if it mimics a human) lacks the emotional authenticity of a human performance. Others claim that as long as the creative intent is human (a human wrote or arranged it), the tool that produces the sound – whether a synthesizer or a vocal clone – is just part of modern artistry. These ethical discussions are ongoing and often personal. For instance, when Timbaland unveiled his AI Biggie track, some fellow artists like rapper Offset called it fire, while others like DJ Premiere criticized it as "lame", saying it crossed a sacred line .

To address impersonation concerns, some jurisdictions are moving toward requiring disclosure of AI-generated media (so-called "deepfake laws"). For example, China implemented rules (in 2023) that any deepfaked content, including AI-generated voices, must be clearly labeled as such. Similar proposals have been floated in the EU and US for political deepfakes. The music industry might see a norm develop where AI vocals are credited (e.g. "Vocals: [Artist Name] AI voice"). Interestingly, one of the first instances of this was in the end credits of Top Gun: Maverick, which thanked Sonantic for Kilmer's "AI voice contribution" – effectively acknowledging the synthetic nature of the performance .

Notable Cases and Policies (2023–2024)

Several high-profile cases, lawsuits, and policy initiatives in the past two years illustrate how the legal/ethical framework is evolving:

- Voice Actors vs. AI Company (Lovo Lawsuit): In late 2023, a group of voice actors sued the AI firm Lovo, claiming their voices were cloned without proper consent . According to the complaint, Lovo representatives had recruited actors via a freelancer site, asking them to record hours of narration for "research purposes" with assurances it wouldn't be publicly used . In fact, the actors allege those recordings were used to train commercial voice models – one actor's voice was offered as an AI voice under a fake name "Kyle Snow," which the actor later heard speaking on a podcast . Another actor found her voice clone being used in promotional

materials without credit . The lawsuit (filed as Lehrman v. Lovo, Inc.) throws the book at Lovo with claims ranging from fraud and right of publicity violations to copyright and unfair competition. Lovo moved to dismiss, arguing among other things that the actors had signed over rights via the freelance platform's terms, and that a voice itself is not property that can be "stolen" . This case is closely watched as one of the first legal battles over AI-cloned voices. Its outcome may set precedents on whether using someone's voice to train an AI is legal and what theories of harm apply if not. Regardless, it has already sent a signal to AI companies to be transparent and obtain clear permission when using performer voices, or risk legal action.

- UMG Takedowns & Copyright Office Attention: The music industry's response to AI voice clones ramped up in 2023. Besides the Drake/Weeknd track takedown, record labels have been lobbying regulators. In October 2023, the RIAA (Recording Industry Association of America) joined other creator groups to launch the Human Artistry Campaign, which outlined principles for AI that "emphasiz[e] respect for artists, their work, and their personas; transparency; and adherence to existing law" . They are pushing for laws that clarify that unauthorized AI mimicry of an artist's style or voice is not allowed. The U.S. Copyright Office also held sessions on "Digital Replicas" as part of a study on AI and copyright, exploring if new rights or frameworks are needed to protect human performers. There's discussion of introducing a new neighboring right for performers in their performance (distinct from composition or recording copyright) that could extend to AI-generated performances of their likeness. As of 2024, no federal law grants this explicitly, but the conversation is active.
- Grammys and Industry Rules: We already noted the Grammys rule that only human creators can win awards . Additionally, major streaming platforms and distributors have quietly updated content policies. For instance, Spotify's policy now prohibits content that impersonates artists in a misleading way, and many distributors warn that AI-generated songs imitating famous artists may be rejected unless properly licensed. On the flip side, some artists have started embracing "AI featuring" credits – e.g., an independent musician might release a track "featuring AI-Vocalist (trained on [their own name])" to be clear on what listeners are hearing. The year 2023 saw a wave of experiments but also pushback that is gradually shaping norms: it's becoming understood that using another living artist's

voice without permission is off-limits (ethically if not yet always legally), whereas using AI to resurrect a deceased artist might be viewed kindly if done respectfully and with permission from their estate (as with Avicii's tribute or an upcoming Beatles song that plans to use AI to isolate John Lennon's old vocals – a slightly different use of AI, but related to voice revival).

- Legislation – Looking Forward: Aside from Tennessee's ELVIS Act , other regions are evaluating legal updates. California, which often leads in publicity rights, already considers a person's voice protected from unauthorized commercial use, but may refine this for AI explicitly. Internationally, the EU's draft AI Act includes provisions about deepfakes that could indirectly cover voice cloning. There is also discussion in legal circles about requiring watermarking of AI-generated audio to aid in detection. Interestingly, the FTC in the US launched a "Voice Cloning Challenge" in 2024 to spur development of tech to detect or prevent deepfake voices , showing that regulators are aware of the potential harms. In the absence of universal laws, the safest route for professionals is obtaining contracts and clearances: studios now often put clauses in agreements to cover AI (e.g. a singer might negotiate that the label can't use her AI voice without separate approval), and companies like Respeecher operate with strict client consent and IP transfer agreements for any voice model they build.

Conclusion

Voice cloning technology has rapidly evolved from a curious demo to a practical tool in professional music and film production. By late 2024, AI-cloned voices have been used to create hit-worthy rap songs, bring beloved film characters back to life, and empower artists with new creative possibilities. The state-of-the-art systems can closely mimic vocal tone, accent, and even performative nuances like flow or vibrato, often fooling even trained ears. This opens exciting avenues: imagine producers crafting songs in multiple artists' styles at the click of a button, or filmmakers seamlessly de-aging voices to match digital de-aged actors. Yet, these possibilities come bundled with complex legal and ethical challenges. The industry is now grappling with questions of ownership, consent, and authenticity that have no easy answers. In response, we see a movement toward establishing norms – "only human creators are eligible" for awards to preserve artistic integrity , and laws like the ELVIS Act to safeguard performers' voices . Going forward, it's likely that voice

cloning will become a standardized tool used with the explicit blessing of the talent involved, much like how likeness rights are managed for holograms or digital cameos.

For professionals, the current landscape demands caution and respect: using a cloned voice can be a powerful creative shortcut or enhancement, but it requires securing rights and maintaining transparency to avoid backlash or legal trouble. For every thrilling example of AI vocals (say, a “lost” Biggie verse delighting fans in a Timbaland track), there is a cautionary tale (an anonymous deepfake track sparking lawsuits and removals). The balance between innovation and protection is still being negotiated across courts, contracts, and public opinion.

In summary, voice cloning stands at the cutting edge of audio technology in 2025, already influencing how music and films are made. The tools are here and growing more advanced, allowing rap, singing, and speech to be faked with “convincingly accurate impersonations” . The coming years will determine how we as a society choose to embrace this capability. With sensible regulations and ethical guidelines, voice cloning could enrich entertainment in ways we’re just beginning to imagine – enabling new artistic expressions and preserving voices for posterity. But without these guardrails, it could just as easily undermine trust in what we hear and deprive artists of control over their most personal asset: their own voice. The state of the art is impressive; now the task is to develop equally state-of-the-art practices for its responsible use.

Sources: The information in this report was gathered from recent articles, research papers, and industry news (2022–2024), including technology news outlets, law analyses, and official statements. Key references include coverage by The Verge , The Atlantic , music industry reports , legal reviews such as the National Law Review , and academic publications on voice conversion , among others. These citations are provided throughout the text in the format 【source†lines】 for verification of facts and statements.