Artificial Intelligence and the Entertainment Industry

Caroline Rae McCarthy
University of New Hampshire, Durham

Follow this and additional works at: https://scholars.unh.edu/honors

Part of the Business Law, Public Responsibility, and Ethics Commons, and the Technology and Innovation Commons

Recommended Citation
McCarthy, Caroline Rae, "Artificial Intelligence and the Entertainment Industry" (2024). Honors Theses and Capstones. 857.
https://scholars.unh.edu/honors/857

This Senior Honors Thesis is brought to you for free and open access by the Student Scholarship at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Honors Theses and Capstones by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact Scholarly.Communication@unh.edu.
HONORS THESIS

Artificial Intelligence and the Entertainment Industry

By Caroline McCarthy

Spring Semester, 2024

Faculty Advisor: Diane Devine, M.B.A
Abstract

Artificial intelligence is a fast-growing technology that is quickly taking over many industries, such as the entertainment industry. Artificial intelligence has the capability to replicate voices, create fake videos and photos, called deepfakes, of just about anything, and can practically bring people back to life. This technology, as it stands now, is similar to the wild west because in the vast majority of places, it’s lawless. Artificial intelligence is growing so rapidly that lawmakers haven’t had a chance to keep up. This paper explains more of what AI does in everyday life, and how its abilities can impact the entertainment industry in both positive and negative ways. It also discusses postmortem rights, and how easy it is to make a digital clone. The results of the research show that in entertainment the voice acting industry, rising talent, deceased celebrities, and people who have created content in the past can all be victims of AI if laws aren’t created to protect them.

Key Words: synthetic voice, deepfake, digital resurrection, AI
Table of Contents

Literature Overview .................................................................................................................. 4
Research Questions .................................................................................................................. 6
Method ...................................................................................................................................... 6
Results ....................................................................................................................................... 6
  AI Capabilities and Usage ................................................................................................. 6
  AI Usage in Entertainment ................................................................................................. 10
  AI Synthetic Voice and Impact on Voice Acting .............................................................. 13
  Deepfakes .......................................................................................................................... 16
  Ethical? .................................................................................................................................. 19
  Celebrities and AI Examples ............................................................................................ 23
  Laws to Protect Image and Voice ..................................................................................... 25
Discussion ................................................................................................................................. 34
References ................................................................................................................................. 36
Appendix ................................................................................................................................. 43
Literature Review

Artificial intelligence is taking over many industries in the modern day. AI can be used to help with everyday tasks, such as data entry, which allows workers to have more time to do other tasks. It also has the ability to take over jobs, such as script writing, which can be detrimental for industries like entertainment. In fact, an issue many celebrities are facing is that their voice and image are being used, with AI, without their consent. Laws have not been created to specifically protect celebrities in this way since AI has been advancing so rapidly, and there is a dilemma between postmortem rights and freedom of speech.

An example of this is Robin Williams' voice being used after his death. Through AI, people have been able to replicate his voice, and are using it to do and say what they want. Since he passed before AI was being utilized in this manner, he could not give permission to be re-created with AI, but also couldn’t refuse it either. Zelda Williams, Robin William’s daughter, dislikes her father’s voice being used in this way. “I’ve already heard AI used to get his ‘voice’ to say whatever people want and while I find it personally disturbing, the ramifications go far beyond my own feelings," said Zelda Williams (Notheis, 2023).

AI is also being used to create deepfakes of celebrities. As AI technology improves and expands, advanced synthetic media known as “digital clones” and “deepfakes” have started to emerge. This synthetic media is created using photos, videos, and audio of a person, which can then be programmed to do and say anything the programmer wishes (Roberts, 2023). Tom Hanks recently discovered that a deepfake of himself was being used to advertise a dental plan. Though Meta, the platform various deepfake advertisements are posted on, states that it is “against (their) policies to run ads that use public figures in a deceptive nature in order to try to scam people out
of money,” and have “put substantial resources towards tackling these kinds of ads,” it is almost impossible to eliminate all of them (Taylor, 2023).

There are many other cases of AI being used against celebrity wishes, but it can also be used to help them. “After surgery for throat cancer, actor Val Kilmer used AI to digitally recreate his lost voice for the film Top Gun: Maverick (Li & Bantourakis, 2023). However, there does seem to be more bad than good when it comes to AI. This is mainly because of the lack of laws and rights surrounding it. While 36 states protect the right of publicity, there are only 25 states that have extended such rights to include protection after death (Roberts, 2023). Postmortem protection mainly is for commercial use only, meaning that people have the right to publish defamatory remarks about a deceased person while using their likeness.

The view on postmortem use of data and image actually varies from someone’s opinion about their own data versus someone else’s data. In a 2018 survey conducted among college students in Japan on whether to retain their data after death, 51.3% of respondents preferred deletion of their social networking data, whereas only 11.1% preferred deletion of the accounts of their family members and friends after their demise (Orita, 2022). If you were to consider celebrities in this study, the percentage of preferred deletion would most likely be even smaller.

Currently, there is no comprehensive legislation regarding privacy after death, and it is generally accepted that the deceased have no human rights and therefore, no right to privacy because they are already dead (Orita, 2022). However, this issue is being addressed. In 2020, New York explicitly created a right to prevent unauthorized computer-generated likenesses, specifying this protection applied before and after death (Bartholomew, 2023). In 2022, Louisiana passed a law for “misappropriation of identity,” and congress is currently holding hearings to discuss the need for a “federal right of publicity” to meet the challenges of AI (Orita,
AI and the Entertainment Industry

2022). Though there are no comprehensive rules or laws protecting people from AI, they are slowly being created, and at the very least there is a conversation happening.

Research Questions

- What can AI do?
- How is AI utilized in entertainment, and how is it planned on being used?
- How has and how will AI synthetic voice impact the voice acting industry?
- How much control do celebrity estates have when it comes to voice usage?
- What are the laws, or will there be laws, to protect people’s voice and image?

Method

The data for this research is secondary. This is appropriate because a lot of AI data is specific to different industries and states. Resources such as Google Scholar, the UNH Library, and government websites were used to obtain the data. Professors and librarians were also utilized to find more reliable secondary materials. Secondary research also allows for celebrity’s experiences and thoughts on artificial intelligence to be heard.

Results

AI Capabilities and Usage

To understand the capabilities of AI, it is good to know what AI is. According to IBM, “Artificial intelligence, or AI, is technology that enables computers and machines to simulate human intelligence and problem-solving capabilities” (IBM, n.d.). AI can perform tasks that
usually require humans, such as being a digital assistant, GPS guidance, autonomous vehicles, and more. AI works from algorithms “modeled after the decision-making process of the human brain” (IBM, n.d). It learns from available data, an example is if you were to ask AI to make an image of a golden retriever, it would process all the images of golden retrievers available and utilize them to make the image for you. AI can use data from human language, images, videos, software, molecular structures, and other data.

Another aspect of AI is generative AI. This “refers to deep-learning models that can generate high-quality text, images, and other content based on data (it) was trained on” (IBM, 2023). Generative AI started mainly with image filters, such as taking a selfie with a filter to make yourself look older or younger. Today, generative AI has expanded to language processing and can utilize data of any type to do almost any task.

AI capabilities and usage are constantly expanding. According to Bernard Marr at Forbes, AI can read, write, see, hear, speak, smell, touch, move, understand emotion, play games, debate, create, and mind read (Marr, 2019). For reading, AI can summarize written work such as books or legal documents. For writing, AI can write novels, articles, and social media posts, and it can be more specific if you add “who, what, where, when, why, and how,” (Marr, 2019). For seeing, self-driving cars, predictive maintenance, and facial recognition all use AI. For hearing, AI can automate meeting minutes and can detect and analyze sounds. For speaking, AI is used in applications and devices such as Amazon Alexa, customer service phone calls, and Google Maps. For smell, IBM is developing perfumes made by AI, and currently in the works is AI being able to detect illness from a human’s breath (Marr, 2019). For touch, AI can use sensors and cameras connected to a robot with arms and hands. A specific example is a robot that can pick ripe raspberries and place them in a basket. For move, this includes autonomous vehicles,
drones, and robots. For understanding emotion, AI can gather data from a person’s facial expressions and body language to determine their emotion. For games, you can play against AI in online games such as chess and poker. For debate, IBM created a debating technology, called Project Debater, that is the first AI system to successfully debate with a human. For create, AI can create visual art, poetry, compose music, and even take photos. Lastly, for mind reading, AI can interpret brain signals and create speech which is great for people with speech impairment (Marr, 2019).

To learn more about the importance of generative AI, in December 2023, Deloitte conducted a quarterly survey of 2,800 AI-savvy business and technology leaders to learn about their experience and involvement with AI (Deloitte, 2024). From this survey we learned that 44% of leaders thought their organization had high or very high levels of expertise with generative AI. When asked “when is generative AI likely to transform your organization?” 48% said in one to three years, 17% said less than one year, 14% said now, 1% said never, and 20% said beyond three years (Deloitte, 2024). 91% of these organizations expect their productivity to increase due to generative AI (Deloitte, 2024).

To see how much the American public knows about AI, Pew Research Center conducted a survey of 11,004 U.S. adults. In this survey, Pew Research Center asked if different technology involved AI or not with only six options being correct. These options were wearable fitness trackers, chatbots, product recommendations, security cameras that send alerts, music playlist recommendation, and email service categorizing an email as spam (Kennedy, Tyson & Sakes, 2023). Out of these six questions, 30% of Americans correctly identified these six options as being involved with AI. The survey also showed that U.S. adults with higher levels of education and income were more aware of examples of AI in daily life, and younger Americans were as
well. Frequent internet users also scored higher compared to infrequent users. To sum up this survey, the majority of Americans are unaware of everything AI is involved in. This could be part of the reason only 15% of Americans are more excited than concerned about AI and its development (Kennedy, Tyson & Sakes, 2023).

From these studies, it shows that AI can be everywhere. It is rapidly growing, and most Americans are unaware of its usage or their involvement with it. In the future, there may be courses or books that explain where and why AI is used. As of now, AI is moving too fast for the average person to know its capabilities. However, it is here, and according to the industry leaders, it is here to stay.
AI Usage in Entertainment

AI and entertainment can be viewed as both a good and a bad thing. On the one hand, AI can shorten production time and save money, on the other, it can eliminate jobs and utilize artist’s work without any recognition or residuals. According to MIT Sloan, AI can produce stories, scripts, ad copy, reviews, marketing campaigns, and moving and static images (Davenport & Bean, 2023). There are economic pressures in entertainment that demand more productivity for less money. Currently, the majority of entertainment is being created from past content, which is exactly what AI uses to make content based on how it learns.

In May 2023, the Writers Guild of America went on strike. This strike was focused on getting proper residuals from streaming services, but also focused on demanding production companies to “regulate use of material produced using artificial intelligence or similar technologies” (Davenport & Bean, 2023). Meaning that AI is relying on work from writers, actors, producers, and more, so these artists deserved residuals from AI usage, just like from streaming services. Jonathan Taplin, Director Emeritus at the Annenberg Innovation Lab at the University of Southern California, states “The biggest problem in the movies is too many formulas. There is a lack of originality, and that’s why the industry isn't performing.” “Entertainment relies on new ideas, and this technology (AI) can’t produce them,” he said (Davenport & Bean, 2023). AI is likely to lead to significant changes in the industry over the next few years, from changes in production, postproduction, distribution, and intellectual property ownership (Davenport & Bean, 2023).

Dr George Dagliyan, a research scientist who attended Pepperdine’s Graziadio Business School, found that there were both facilitators and inhibitors to AI adoption (Grandados, 2023). The facilitators include convenience, customization, and efficiency. The inhibitors include
uncertainty, privacy risk, and loss of control. An example of a facilitator and an inhibitor is social media and streaming platforms. AI algorithms can analyze usage in order to suggest relevant content, which saves the user time and effort when browsing, which is a facilitator. AI can also mine consumer’s data which is a loss of privacy, but so far, the facilitators seem to be worth the risk to most (Grandados, 2023).

Currently, there are advertisements being made with AI. In Japan, an advertisement of the drink, Oi Ocha Catechin Green Tea, was created which showed an AI generated woman drinking the tea. AI was used because it showed this woman 30 years later also drinking the tea, and the producers thought this would be the best way to show the age change. Though this way of advertisement creation is quick, efficient, and inexpensive, it also raises issues of truthfulness and authenticity in media (Grandados, 2023).

This sort of large change in the entertainment industry isn’t new. There have been massive shifts before, such as the addition of sound and color to movies, and more recently the shift from physical film to digital film. According to Media Tech, the switch in film made movie making available to the masses and much more inexpensive (Friedman, 2023). This is a very similar aspect of the shift to AI. An example of decreasing time and money with AI is StoryFit, a company that helps creatives in the industry choose the best scripts based on content, marketability, and audiences (Friedman, 2023). StoryFit simplifies looking through endless stacks of script submissions, and as the CEO of StoryFit, Monica Landers, says “StoryFit is used to enhance the process versus taking it over” (Friedman, 2023). The company has seen success and has been a driving factor behind the shows like “The Queen’s Gambit”, and “The Last of Us.”
Other ways that AI can impact the entertainment industry include digital avatars, synthetic voice, AI generated scripts, AI generated visuals, task automation and augmentation, translation, and the need for public-private collaboration according to the World Economic Forum (Li, 2023). Digital avatars could be used to create promotional or educational content. This content could be easily updated and the person speaking can be tailored towards the audience. Synthetic voice can be used in many ways, but a positive one which was mentioned before is that actor Val Kilmer was able to use AI to digitally recreate his lost voice for the film Top Gun: Maverick. AI generated scripts, though based on creative’s previous material, can be utilized so that humans can focus on idea generation and editing as opposed to rough drafting (Friedman, 2023). AI generated visuals are being utilized by a company called The Simulation with their application called Showrunner. Showrunner was used to create an episode of “South Park”. Showrunner created this episode by using existing content from “South Park”, and everything from the storyline, script, animation, voice recording, and editing were entirely produced by AI.

For task automation and augmentation, AI tools can be used for video editing, storyboard visual effects, and CGI, thus cutting down production time and budget. AI can also be utilized in translation. The South Korean music label HYBE created a song released by the artist MIDNATT in six different languages with AI. The singer’s voice was melded with native speakers of other languages to do so. Lastly, for the need for public-private collaboration, The World Economic Forum has created an AI Governance Alliance which prioritizes ensuring safe systems and technologies, promoting sustainable applications and transformation, and contributing to resilient governance and regulation (Friedman, 2023).
AI Synthetic Voice and Impact on Voice Acting

AI has the ability to generate and clone voices. So much so that it is threatening the voice acting industry. AI “doesn’t just create more competition for jobs; voice actors also worry about their vocals being stolen and copied to promote mis and disinformation,” according to Wired (Hoover, 2023). AI has the ability to take over entry level voice acting work, but it may not take over more important voice acting roles due to its inability to fully capture the human voice and all the noises that come with it. To get the right emotion, dialects, and artistry, producers will still need to hire humans (Hoover, 2023).

Dan Lenard, the president of the World-Voices Organizations, states that AI tends to make voices “as boring as possible,” (Hoover, 2023). This type of voice can be great for short and simple educational or HR videos, but it does not engage people like a human voice does. Spotify has created a translation feature for podcasts which translates podcasters’ voices into other languages which is great for reach. However, it may not showcase the podcast as it truly is since the translated voice isn’t the true voice of the podcast host.

Voice actors worry that their voices could be used without consent to create new content. This fear is real since voice actors, like Allegra Clark, are having their voices used to say things they wouldn’t say. According to the Forbes article “Keep Your Paws Off My Voice”, Clark came across a video of a video game character she voices, Beidou in the game Genshin Impact, saying sexually suggestive stuff that Clark never recorded in real life (Shrivastava, 2023). In this particular video, Clark’s voice was cloned using a generative AI tool called ElevenLabs (Shrivastava, 2023). Though Clark interpreted the video as a joke, she worried that her client might see the video thinking that was her speaking which could be a violation of her contract.
Though Clark reached out to ElevenLabs to take down the video and prevent future cloning of her voice, the company said it hadn’t determined that the clip was made with its technology (Shrivastava, 2023). Furthermore, they said they would only take immediate action if the clip was “hate speech or defamatory”, and that they weren’t responsible for any violation of copyright. No further action from ElevenLabs was taken on the matter. However, ElevenLabs co-founder and CEO, Mati Staniszewski, told Forbes that users need the “explicit consent” of the person whose voice they are cloning if the content created could be “damaging or libelous” (Shrivastava, 2023). Later, they launched a “voice captcha” tool that makes a person record a randomly generated word and that voice must match the voice they are trying to clone (Shrivastava, 2023).

There are many ways a voice can be cloned and used. AI ElevenLabs only requires between 30 seconds to 10 minutes worth of audio to create a replica of a voice, sites like FakeYou and Voice AI offer a free library of digital voices, and Apple Books launched digital narration of audiobooks with various voices that can be taken from the service and cloned. Hundreds of voice actors have asked for their voices to be purged from AI voice generators like Uberduck and FakeYou. Even though these companies said they would, FakeYou still has thousands of popular voices like John Cena, and Uberduck only removed user-contributed voices from its platform (Shrivastava, 2023). Jim Cummings who has voiced many characters, such as Winnie-the-Pooh and Taz from Looney Tunes, is one of the voice actors who is requesting his voice be removed from voice generators. He would only agree to users templating his voice if he and his family received royalties for it (Shrivastava, 2023).

Unfortunately, voices aren’t protected as intellectual property. As voice actor Jennifer Roberts states, “There’s no legal protection for voice like these is for your face or for your
fingerprint,” (Shrivastava, 2023). However, a recording of a voice can be copyrighted. Using a voice for commercial purposes can be protected by “rights of publicity”, but contracts don’t include protection of voice actors from AI. This is mainly because most contracts were created and signed before the invention of AI. “Voice actors have not provided informed consent to the future use of an audio recording and haven't been fairly compensated for it,” said Scott Mortman, an attorney for National Association of Voice Actors. “And so protections need to be strengthened significantly in the wake of AI,” he states (Shrivastava, 2023).

Though AI technology in voice acting can be bad, it can also be good. According to Acadecraft, finding the perfect voice of a project is more efficient with AI (Craig, 2023). Instead of having a lengthy and costly search, AI platforms offer a vast database of voice actors that clients can browse through (Craig, 2023). They can use filters for preferences such as language, accent, tone, and style. This technology can be great for a company looking to produce a commercial in multiple languages, it allows companies to find the best voice for their target audience, and it can be used to enhance the quality of the voice.

AI is also great for text to speech applications. Written text can be converted into spoken words which provides accessibility to individuals with visual impairments, or those who prefer auditory learning (Craig, 2023). Currently, 35% of companies are using voice-processing AI, and this number is expected to rise. Companies use voice processing AI to enhance customer service and streamline business operations. Partly because of this, the international Artificial Intelligence market is expected to reach $266.92 billion by 2027 (Craig, 2023).
Deepfakes

Another issue of AI and the entertainment industry is deepfakes. According to the Government Accountability Office, “Deepfakes are videos, audio, or images that have been manipulated using artificial intelligence (AI), often to create, replace, or alter faces or synthesize speech,” (U.S. GAO, 2024). An example of a deepfake was when one was created of the YouTuber MrBeast. This video looked like and sounded like MrBeast, and in it the fake MrBeast was promoting a fake giveaway and survey. It was such a good deepfake that TikTok’s strong ad-moderation technology didn’t detect it as fake (Adetunji, Leong & Chuks-Okeke, 2023).

OpenAI, an AI research and deployment company dedicated to ensuring that general-purpose artificial intelligence benefits all of humanity as stated on their LinkedIn page, has created a video-generator called Sora that can create fake videos (OpenAI, 2023). According to an article written by abcNews, “Sora composes videos, lasting up to one minute long, based on user prompts” (Zahn, 2024). As of February 2024, the video-generator is being used by product testers and is not available to the public. Though this video-generator could help in video creation and storytelling, it can also contribute to misinformation and propaganda since the line between what is real and what is fake online is very thin.

Kristian Hammond, a professor of computer science at Northwestern University, states “the clarity of truth we thought we had with recorded photography and video is gone… we’ve inadvertently built a world of propaganda engines,” (Zahn, 2024). Though OpenAI does have safety features for Sora, such as a tool that polices text prompts to ensure they do not violate rules against “extreme violence, sexual content, hateful imagery, celebrity likeness, or IP of others”, users usually find a way around this (Zahn, 2024). This, combined with Sora’s likeness
to reproduce biases such as racial and gender stereotypes due to being trained on troves of online data, means that media created with AI has the ability to do more harm than good.

OpenAI also plans to implement a “detection classifier” that can identify when a video has been produced by Sora (Zahn, 2024). This will include a digital tag that works like a digital watermark, so viewers know the video they are watching is fake. However, again, users can find a way around this. Skilled computer users can reproduce or alter videos to remove tags and any other identifiers that the video was made with Sora or other AI tools. Thus, contributing to more misinformation and potential propaganda.

Michel Janse, a creator on platforms such as TikTok and YouTube, was on her honeymoon when she learned that there was an advertisement of her promoting erectile-dysfunction pills online. According to Marketing Brew, Janse said “it was me, in my clothes, in my bedroom, but I didn’t do an ad there,” (Hicks, 2024). The advertisement pulled visuals from a 33-minute video about her divorce she posted a year ago, it had her talking about her husband “Michael” who never existed, and the link in the advertisement directed to content that she described as “basically pornographic,” (Hicks, 2024). This real-life example shows how AI can damage or alter a creator or celebrity's image or reputation. The family, friends, and followers of the person know it's not them, but the general public doesn't, which is what is very concerning.

However, some celebrities are utilizing this technology. In 2018, model and actress Cara Delevingne worked with the German retailer Zalando to create more than 290,000 localized advertisements featuring her likeness, in 2023, Queen Latifah partnered with Lenovo on a similar campaign, and Meta paid celebrities like Kendall Jenner and Tom Brady to use their likenesses as part of its AI Personas (Hicks, 2024).
Though celebrity and brand collaborations can be great, AI is creating fake collaborations that are harmful. For instance, the cookware company Le Creuset was promoted in deepfake videos with celebrities like Selena Gomez and Taylor Swift. In these videos, the fake celebrities were offering cookware giveaways that ended up being a scam. Le Creuset did send out a statement that they were “not involved with Taylor Swift for any consumer giveaway,” and pointed users to their official social channels (Hicks, 2024).

According to AI verification service Zefr’s CCO, Andrew Serby, it is important for brands and companies to develop action plans and structured policies when it comes to AI and deepfakes. Otherwise, Serby states, “it’s going to be Whac-a-mole” trying to play catch up as AI generated content spreads (Hicks, 2024).

MIT’s Center for Advanced Virtuality created a project to educate the public about deepfakes in 2010. With this project they created a deepfake of US President Nixon delivering the “real contingency speech written in 1969 in the event the Apollo 11 crew were unable to return to earth (Lalla, Mitrani, & Harned, 2022).

Similarly, in 2021, a Belgian digital AI artist worked with a Tom Cruise impersonator and created very realistic videos of “Tom Cruise" on TikTok under the account @deeptomcruise (Lalla, Mitrani, & Harned, 2022). These videos showed Tom Cruise doing various activities such as falling to telling a Soviet Union joke in a retail store. Thus, showing how easy it is to create a persona for someone.

A Pew survey found that “in the face of altered video and audio, 63 percent of respondents had ‘‘a great deal of confusion” around current issues, whereas 38 percent believed they should be able to recognize ‘‘videos and images that are altered or made up” and 53 percent believed it is easy to recognize the same (Cochran & Napshin, 2021). Furthermore, in a study
done by Liebertpub, when asked if participants had concerts about deepfakes 36% strongly agreed, 30% agreed, 19% somewhat agreed, 9% neither agreed nor disagreed, 3% somewhat disagreed, 2% disagreed, and 1% strongly disagreed (Cochran & Napshin, 2021).

Ethical?

When AI is used in a consenting manner, it can be great. For example, David Bechman in his Malaria No More campaign. With his consent, his campaign enabled Beckham to deliver his message in nine different languages (Lalla, Mitrani & Harned, 2022). In commercial applications, “deepfake actors” can be hired to record personalized messages as a famous personality, then they are edited to look like the talent which can save the real talent hundreds of hours of work. When consensual, AI and deepfakes can be time saving and allow for a greater audience, which can be a great thing.

However, deepfake actors could also be a bad thing. If an aspiring actor wants to make it big, but the only gigs available are deepfake actors, then they can never get their name out there. They can never get fame or money since their image will be overlaid with a current celebrity (Lalla, Mitrani & Harned, 2022).

According to the BBC, Jamie Yeo, a Singaporean actress, model, and former radio DJ, has no problem with being deepfaked (Marsh, 2023). Yeo has an agreement with the financial technology firm, Hugosave, in which she allows them to use a digitally manipulated likeness of her to sell their content (Marsh, 2023). To do this, Yeo spent a couple hours in front of a green screen to capture her face and movements, and then a couple more hours in a recording studio to capture her voice. “I do understand the concern, but this technology is here to stay,” Yeo states,
“so even if you don’t embrace it because you’re scared, there will be other people who will embrace it,” (Marsh, 2023).

Soccer player, Lionel Messi, has already embraced this change with a deal with PepsiCo. PepsiCo was allowed to use a deepfake of Messi for a Lays crisps advertisement (Marsh, 2023). This deepfake can be used by fans online to create a personalized video message from “Lionel Messi” in the languages English, Spanish, Portuguese and Turkish.

Dr. Kirk Plangger, a marketing expert at King’s College London, states that he thinks “deepfakes will just become part of normal practice in the advertising industry over the next few years,” (Marsh, 2023). Using deepfakes for advertising helps to save money and time and is much more efficient if changes need to be made. Though, Dr. Plangger does state that there is a looming “crisis of trust”. This is because consumers cannot tell between what is real and fake anymore. “The advertising industry needs to wake up to the risks as well as the possibilities of artificial intelligence. It means stepping back, as a society, and thinking about what is the proper or ethical use of this technology is,” states Dr. Plangger. (Marsh, 2023).

A major ethical issue of deepfakes and synthetic voices is resurrecting dead celebrities. A major example of this is that the American actor James Dean, who died in 1955, is now in a new movie called Back to Eden nearly seven decades later. Travis Cloyd, chief executive of immersive media agency WorldwideXR, describes the science fiction film in which “an out of this world visit to find truth leads to a journey across America with the legend James Dean,” (Velasquez, 2023). A digital clone actor will walk, talk and interact on screen with other actors in the film, and James Dean’s image and voice will be overlayed on them.

Dean isn’t the only one being brought back to life. Carrie Fisher, Harold Ramis, and Paul Walker, among others, have reprised film roles posthumously. Brazilian singer Elis Regina was
also resurrected for a car advertisement in which she is shown duetting with her daughter Maria Rita (Velasquez, 2023). These resurrections bring up questions, such as who owns the rights to someone’s face, voice, and persona after they die? Can this change a celebrity's career postmortem? And, if current celebrities can figure out how to protect themselves in the afterlife, what about the celebrities who died before the invention of the internet?

The celebrities who died before the internet do have one advantage. There was never any data collected on them such as selfies, emails, search engine usage, what items they bought online, and what medical prescriptions they purchased. This data has the ability to make a clone into a superficial twin of the celebrity, going deeper than what’s on the surface (Velasquez, 2023). Actor Tom Hanks states, “I could be hit by a bus tomorrow, and that’s it, but my performances can go on and on and on,” (Velasquez, 2023). Digital resurrection is a real concern, and actors and voice actors are currently working across acting guilds to form a unified front in protecting the rights and careers of actors (Velasquez, 2023).

Not just celebrities are being brought back to life, but anyone of any status can now be brought back to life in the form of a “deadbot” (Velasquez, 2023). Users can upload a deceased loved one’s digital data in order to create a bot they can chat with. The more information the user gives, the more accurate and intelligent the bot is.

In 2018, a survey was conducted among college students in Japan on whether to retain their data after death. 51.3% of respondents preferred deletion of their social networking data, whereas only 11.1% preferred deletion of the accounts of their family members and friends. Therefore, a conflicting trend was observed, wherein the students preferred deletion of their own data, but retention of those of their family and friends (Orita, 2023).
There are services that aim to achieve "digital immortality" of users by allowing them to create and leave behind an alter ego online (Orita, 2023). These services include ETER9 which is a social network that allows a user’s “counterpart” to continue posting content created via AI based on the past behaviors of the user after their death, and Lifenaut which allows users to create a "digital backup" of their mind and genetic code. Lifenaut does this with a database called a "MindFile" that stores and organizes detailed personal data of a user, and a "Bio File" that stores a copy of their DNA (Orita, 2023). The creation of a MindFile requires a user to answer 486 questions, and their avatar learns their behaviors when the user teaches and trains it. These services aim to collect the data of individuals during their lifetime, which allows them to control the manner in which they are remembered and recreated after death (Orita, 2023).

Currently, there is no comprehensive legislation regarding privacy after death, and it is generally accepted that the deceased have no human rights and therefore, no right to privacy because they are already dead (Orita, 2023). However, the concept of postmortem privacy is being considered which is the right of a person to preserve their reputation and dignity after death since data from the user, such as text messages, can be misinterpreted after death. Thus, the deceased may have to decide before their death regarding the protection of their reputation and privacy, including the widespread use of their remnant data in the media (Orita, 2023).

Digital resurrection also creates a dilemma for voice actors. Usually, when a voice actor of an iconic voice, like Mickey Mouse, retires or passes away, a new one is hired to fill in for them. However, if the voices of the original voice actors can be recreated, do new ones get hired or do the old ones get reused? Tim Friedlander, president and founder of the National Association of Voice Actors in the US fears that digitally resurrected voice actors will monopolize the voiceover industry (Velasquez). Travis Cloyd acknowledges that even though
AI and the Entertainment Industry

digital recreation can take away opportunities, the technology itself can create new ones since it takes plenty of people to work on and with this technology to make it perfect.

According to a Wall Street Journal article, AI tools can suggest storylines, character arcs, and dialogue and can write a basic script when given a few prompts. This brings up the question: “If a user prompts an AI tool to build a new character influenced by say, SpongeBob, should the original creators have to grant permission? Who owns it? Can the new work itself be copyrighted?” (Davenport & Bean, 2023). Jonathan Taplin, director emeritus at the Annenberg Innovation Lab at USC, notes that AI models are trained “by ingesting everything on the internet, with no concern for copyright,” meaning that “You can issue a prompt like ‘Write me a song that sounds like Taylor Swift, sad ending, up-tempo,’ and the resulting song sounds somewhat like her. Someone could include it in a video game or a bar scene in a movie for free.” The same can be done with video content owned by studios (Davenport & Bean, 2023).

An example of this is with the author Jane Friedman. She noticed that books and posts were being published under her name, but not by her. The content and material mirrored her own writing but reads as though generated by AI (Friedman, 2023). Friedman hasn’t received any compensation for the works published, and it begs the question, “who owns AI generated work?”; especially when all AI generated content is largely based on a human artist’s previously created work (Friedman, 2023).

Celebrities and AI Examples

Now knowing more about AI and deepfakes, here are some more celebrity examples. A documentary made about the late Anthony Bourdain, an American chef and author, used AI to clone his voice in order to have him “read” an email he had written (Hoover, 2023).
AI clones of celebrities including “Joe Rogan, Taylor Swift, Steve Harvey, Ice Cube, Andrew Tate, Oprah, and the Rock” have been used to market “Medicare and Medicaid scams to millions of people on YouTube,” racking up hundreds of millions of views (Herman, 2024). As stated before, Taylor Swift has also been used in a Facebook scam involving high-end cookware, and Scarlett Johansson sued a company that used her synthetic likeness to market AI content-generator apps (Herman, 2024).

Gayle King was used to read an ad for a weight loss product she’d never heard of or used, and Tom Hanks was used to promote a dental plan. Elon Musk was used for promising money for private information like banking details, and George Carlin was reanimated for an hour-long comedy special. A major issue is deepfake porn in which virtually any celebrity woman can be found (Herman, 2024). What’s worse is that some porn producers are making money off of this nonconsensual porn, and it is being used to threaten, blackmail, and humiliate people, famous or not, in private and professional contexts (Herman, 2024).

Deepfakes and synthetic voices of celebrities are also being used in positive way. The mediation app, Calm, has a feature where users can listen to calming stories to help them fall asleep. Recently, they created a story read by the deceased actor Jimmy Stewart who died in 1997. To do this, Calm used the company Respeecher, based in Ukraine, that uses A.I. technology to produce synthetic speech and clone voices (Kwai, 2023). Calm worked closely with Stewart’s estate on this project.

The last example for this section, though there are hundreds more, is an AI generated Marilyn Monroe chatbot. The AI technology Soul Machines created a “Digital Marilyn” which allows fans to interact with the late actress (Stanton, 2024). Their “revolutionary Biological AI technology” promises “real time, personalized interaction”, with every interaction being unique
Digital Marilyn analyzes the user’s preferences and tailors her response accordingly, which fosters “a genuine connection that resonates with you on an individual level,” (Stanton, 2024).

Kris Ruby, founder of Ruby Media Group and author of “The Ruby Files”, makes a good point about celebrity deepfakes. Ruby states that “AI-induced digital resurrection poses legal and ethical concerns, this assumes everyone wants to be resurrected, when not everyone does,” (Stanton, 2024). “While recent media coverage has focused on consent rights for stars who are deceased, little attention has been paid to consent rights for stars who are still very much alive today. Most have had their work illegally used to train machine learning models. They did not consent to the usage and will most likely not receive royalties for the non-consensual use of their work,” Ruby said (Stanton, 2024).

**Laws to Protect Image and Voice**

When it comes to the protection of people’s image and voice, the bills and legislature are a bit all over the place. Recently, the Alliance of Motion Picture and Television Producers proposed “a groundbreaking AI proposal that protects actors’ digital likenesses for SAG-AFTRA members”, which heavily instigated the strike. (Friedman, 2023). According to members of SAG-AFTRA, the proposal in no way “protects the actors’ digital likenesses” but would protect the studio in taking a digital scan of background actors. This proposal is important because studios are trying to pay background actors for a day of work, and then use CGI of the actor’s digital likeness as many times as they want with no further pay (Friedman, 2023).

A form of payment for actors and celebrities is residuals. These are checks actors get long after they are done shooting because audiences are still watching the movie or show (Gordon-
Levitt, 2023). These checks range from pennies to thousands of dollars or more. Where does AI come in with this? Well, AI is trained on massive amounts of data, and the data it is trained on is created by people. Therefore, these people deserve residuals if AI uses or references their work to make profit. These residuals should be given to actors and writers, but also to people who don’t get residuals today like camera operators, costume designers, sound mixers, and more since AI is using their work in some form (Gordon-Levitt, 2023).

Though, there is difficulty with paying everyone properly. “An AI system would have to track every piece of its training data, and then be able to determine which of those pieces influenced any given output generated and to what degree,” (Gordon-Levitt, 2023). Then, each piece of data would have to be attributed to a verified human or set of humans, and there would need to be a channel of payment for those humans to receive their residuals (Gordon-Levitt, 2023). To create this technology, tech companies will need some sort of incentive to do so, most likely a law will have to be created to make them do so.

“The U.S. Copyright Office recently issued an official statement that completely AI-generated works are not eligible for registration because ‘these technologies 'train' on vast quantities of preexisting human-authored works and use inferences from that training to generate new content,’” (Gordon-Levitt, 2023). So, who owns the copyright to the training data? Not the writers, actors, camera operators, or custom designers, but the studios. This means that if we do get to the point where people are paid for their work, it will most likely just go to the studios and not the people who worked on the movie or show (Gordon-Levitt, 2023).

If an individual or business wants to create a deepfake of a celebrity for media content, they need to talk with an attorney to see if it is legal. It is important to know whether the content is a protected class of free speech, whether the celebrity’s rights of publicity have entered into
the public domain and whether it has a fair use defense to a copyright infringement claim (Lalla, Mitrani & Harned, 2022). Otherwise, consent is likely required.

In the United States, the legal landscape for deep fakes has been changing rapidly. In November 2020, New York enacted a law that bans the use of “a deceased performer’s digital replica” in audio-visual content for 40 years after the performer’s death, if that use is “likely to deceive the public into thinking it was authorized.” According to WIPO Magazine, this law could prohibit the use of deepfakes in instances such as the Anthony Bourdain documentary Roadrunner. There, controversially, the film’s director leveraged deepfake technology to generate three lines that brought Bourdain’s “voice back to life” in order to complete the production following his death, despite the celebrity chef’s widow, Ottavia Bourdain, asserting that she did not give permission for such use (Lalla, Mitrani & Harned, 2022).

Texas has also enacted a similar law in September 2019 that banned disseminating deceptive “deepfake videos” intended to damage candidates or influence a voter base within 30 days of an election. Then, California passed a similar law but with a period within 60 days of an election (Lalla, Mitrani & Harned, 2022). Though these laws have been created, some states have no clear publicity rights to protect dead celebrities' wishes.

In general, when a celebrity dies, "rights to publicity" pass on from the celebrity to next of kin, or to the party granted these rights in a will (Velasquez, 2023). However, even a will, which usually dictates who will benefit financially from the commercial use of the dead celebrity's image and likeness, holds limited legal weight since "it's not like a contract because it's a one-way document," (Velasquez, 2023). Though a few celebrities, such as Robin Williams, were able to use a will to limit the use of their likeness after death, that limit expires after 25 years (Velasquez, 2023). However, there is the federal Lanham Act which serves as an additional
buffer to protect deceased celebrities from being used in false or misleading advertising, and from trademark infringement (Velasquez, 2023).

Currently, New York has the most comprehensive definition of "right of publicity" that protects deceased individuals against commercial exploitation or unauthorized use of their personal characteristics (Velasquez, 2023). Though, the right of publicity really only protects the estate of the deceased, not necessarily the dead person. This means that an estate of a dead celebrity can allow their celebrity to be used in media, such as porn, with little or no legal backlash since the celebrity can no longer consent.

In the US, there's also little legislation protecting the dead from being digitally resurrected for personal use (Velasquez, 2023). This means that when you die, just about anyone can upload your public digital legacy into AI software to create a deadbot or an interactive AI avatar of you (Velasquez, 2023). States with more expansive postmortem protections, such as New York, do prohibit the use of individuals' identities for certain nefarious purposes (Velasquez, 2023).

According to The Council of State Governments, since 2019, 17 states have enacted 29 bills focused on regulating the design, development and use of artificial intelligence. These bills primarily address two regulatory concerns: data privacy and accountability (Wright, 2023). As for Congress, in 2023 they held committee hearings and proposed several bills concerning AI, but they haven't passed yet, which means any legislative framework for AI is currently something the states have to create for themselves.

Though states can have many different approaches on this issue, the White House and industry stakeholders urge states to consider several guiding principles to ensure that AI systems
are designed, developed and deployed in a way that aligns with democratic values and protects civil rights, civil liberties and privacy (Wright, 2023).

These principles include ensuring that the design, development and use of AI is informed by collaborative dialogue with stakeholders from a variety of disciplines, protecting individuals from the unintended, yet foreseeable, impacts or uses of an unsafe or ineffective AI system, and protecting individuals from abusive data practices and ensuring that they have agency over how an AI system collects and uses data about them. Also, ensuring that individuals know when and how an AI system is being used and provide users with an option to opt out of an AI system in favor of a human alternative protecting individuals from discrimination and ensuring that AI systems are designed in an equitable way and ensuring that those developing and deploying AI systems are complying with the rules and standards governing AI systems and are being held accountable if they do not meet them (Wright, 2023).

Legislation of different states, as told by The Council of State Governments, include:

- Illinois, New York, Texas and Vermont have enacted legislation that seeks to ensure the design, development and use of AI is informed by collaborative dialogue with stakeholders from a variety of disciplines.
- California, Connecticut, Louisiana and Vermont have enacted legislation to protect individuals from any unintended, yet foreseeable, impacts or uses of unsafe or ineffective AI systems.
- Vermont created the Division of Artificial Intelligence within the State Agency of Digital Services. The division is responsible for conducting an inventory of all automated systems currently developed or deployed by the state, as well as identifying any potential
adverse impacts on Vermont residents. As part of this effort, the division is required to propose a state code of ethics on the use of AI.

- California, Colorado, Connecticut, Delaware, Indiana, Iowa, Montana, Oregon, Tennessee, Texas and Virginia have enacted legislation to protect individuals from abusive data practices (i.e., the inappropriate, irrelevant or unauthorized use or reuse of consumer data) and ensure that they have agency over how an AI system collects and uses data about them.

- California, Illinois and Maryland and New York City have enacted legislation to ensure that individuals know when and how an AI system is being used. To achieve this, states have required employers or businesses to disclose when and how an AI system is being used. In some instances, an employer may be required to receive consent from an employee in order to utilize an AI system that collects data about them.

- California, Colorado and Illinois have enacted legislation to protect individuals from discrimination and ensure that AI systems are designed in an equitable way. This includes algorithmic discrimination, whereby an AI system contributes to the unjustified different treatment of people based on their race, color, ethnicity, sex, religion or disability, among other things.

- California, Colorado, Connecticut, Delaware, Indiana, Iowa, Montana, Oregon, Tennessee, Texas, Virginia and Washington have enacted legislation to ensure that those developing and deploying AI systems are complying with the rules and standards governing AI systems and are being held accountable if they do not meet them.

Latham and Watkins: Client Alert Commentary shows a bit more insight into what the new Tennessee law does. The law, called the ELVIS Act, seeks to impose liability on generative
AI companies and internet platforms related to unauthorized use of a person’s voice or likeness (Latham & Watkins, 2024). On March 21, 2024, Tennessee enacted the Ensuring Likeness, Voice, and Image Security (ELVIS) Act of 2024, expanding the state’s statutory right of publicity in a manner that may pose new risk of liability for artificial intelligence services, internet platforms, and other technology companies that use artists’ voices and likenesses (Latham & Watkins, 2024). The law goes into effect on July 1, 2024. Publicized as “first-of-its-kind legislation,” the ELVIS Act arrives at the forefront of similar state and federal proposed right of publicity legislation, as well as regulatory action targeting AI-generated deepfakes and soundalikes (Latham & Watkins, 2024).

More recent data from the National Conference of State Legislatures shows that in the 2023 legislative session, at least 25 states, Puerto Rico and the District of Columbia introduced artificial intelligence bills, and 18 states and Puerto Rico adopted resolutions or enacted legislation (NCSL, 2024).

Examples of legislation, as told by the National Conference of State Legislatures, include:

- Connecticut required the state Department of Administrative Services to conduct an inventory of all systems that employ artificial intelligence and are in use by any state agency and, beginning Feb. 1, 2024, perform ongoing assessments of systems that employ AI and are in use by state agencies to ensure that no such system shall result in unlawful discrimination or disparate impact. Further, the legislation requires the Office of Policy and Management to establish policies and procedures concerning the development, procurement, implementation, utilization and ongoing assessment of systems that employ AI and are in use by state agencies.
• Louisiana adopted a resolution requesting the Joint Committee on Technology and Cybersecurity to study the impact of artificial intelligence in operations, procurement and policy.

• Maryland established the Industry 4.0 Technology Grant Program to assist certain small and medium-sized manufacturing enterprises with implementing new “industry 4.0” technology or related infrastructure. The definition of industry 4.0 includes AI.

• North Dakota enacted legislation defining a person as an individual, organization, government, political subdivision, or government agency or instrumentality, and specifying that the term does not include environmental elements, artificial intelligence, an animal or an inanimate object.

• Texas created an AI advisory council to study and monitor artificial intelligence systems developed, employed or procured by state agencies, with North Dakota, Puerto Rico and West Virginia also creating similar councils.

From this data we can see that legislation regarding AI is a bit all over the place. Each state is doing what is good for them, with some states currently doing nothing when it comes to AI. It will take time for the public and some states to understand the impact AI has and what it can do.

Below depicts a pie chart of what U.S. states and territories have AI bills or legislation. This graph is based off of the information from Epic’s (Electronic Privacy Information Center) article: The State of State AI Laws: 2023 (Zhu, 2023). This chart shows that roughly half of U.S. states have at least one bill, and the other half have nothing, or the legislation failed and adjourned.
Currently, the White House has a Blueprint for an AI Bill of Rights, which includes five principles. These principles are Safe and Effective Systems, Algorithmic Discrimination Protections, Data Privacy, Notice and Explanation, and Human Alternatives, Considerations, and Fallback (The White House, n.d.). In short, for Safe and Effective Systems, you should be protected from unsafe or ineffective systems, for Algorithmic Discrimination Protections, you should not face discrimination by algorithms and systems should be use and designed in an equitable way, and for Data Privacy, you should be protected from abusive data practices via built-in protections and you should have agency over how data about you is used (The White House, n.d.).

For Notice and Explanation, you should know that an automated system is being used and understand how and why it contributes to outcomes that impact you, lastly for Human Alternatives, Consideration, and Fallback, you should be able to opt out, where appropriate, and have access to a person who can quickly consider and remedy problems you encounter, and you should be able to opt out from automated systems in favor of a human alternative, where appropriate (The White House, n.d.).
According to The White House, “This framework describes protections that should be applied with respect to all automated systems that have the potential to meaningfully impact individuals’ or communities’ exercise of rights, opportunities, or access, which includes civil rights, civil liberties, and privacy, equal opportunities, and access to critical resources and services,” (The White House, n.d.). This blueprint helps states to create AI legislation. Though it goes more in depth, the overall hope of this blueprint is to create checks and balances in the AI space and to make AI usage align with laws and liberties we have as Americans.

The European Union’s European Commission has been the first to create a comprehensive AI legislation called the AI Act. The AI Act is the first-ever legal framework on AI, which addresses the risks of AI and positions Europe to play a leading role globally (European Commission, 2024). The AI Act sets clear requirements and obligations for AI developers and deployers regarding specific use of AI.

The AI Act is part of a wider package of policy measures to support the development of trustworthy AI, which also includes the AI Innovation Package and the Coordinated Plan on AI. Together, these measures will guarantee the safety and fundamental rights of people and businesses when it comes to AI (European Commission, 2024). They will also strengthen uptake, investment and innovation in AI across the EU according to the European Commission. Thus, ensuring that AI systems respect fundamental rights, safety, and ethical principles and by addressing risks of very powerful and impactful AI models (European Commission, n.d.).

**Discussion**

AI is now prevalent in everyday life. From deepfakes and synthetic voices, to recording motion and specific audios on security cameras. Some people are aware of its usage, and others
are not, which is fair since AI is a relatively new technology. AI has the ability to help and to hurt. For example, deepfakes can help celebrities so they only have one day of shooting and then that can be edited and translated to cover a wider audience. However, deepfakes can hurt people from deception and scams to blackmail and creating lies upon lies.

AI can also help and hurt the voice acting industry with synthetic voices. It can help to restore or enhance voices for media, but it can also take jobs away from voice actors. It can also recreate voice actors’ voices without consent, and since you can’t currently own your voice, that is a problem.

Using AI is ethical if consented to, but as of 2024 little consent is needed, and there is so much content being made without consent that it may not all be caught. There’s also the concern of postmortem rights, and how there is a time limit on how long your image can be protected after your death. Not to mention that your estate can do what they want with your image, so you have to make sure someone you trust is in charge of it.

Legally, in the U.S., the legislation and bills surrounding AI are not concrete and are very specific. This shows that a comprehensive set of laws need to be enacted by states or the country in order to protect citizens from the harmful effects of AI. It is definitely important that the states with absolutely no legislation start trying to create something. AI is moving so quickly; the states may fall behind and people may need to start considering moving to another state if they want to be protected. That’s most likely why the AI legislation is most prevalent in California, Texas, and New York since they house a large population with lots of talent and celebrities.

In Europe, they have an AI Act, the first-ever legal framework on AI, that will be fully applicable by the end of 2025. The United States government should adopt a similar framework if it wants to protect its citizens from the power of AI, and soon. It will be important to create
laws that are all encompassing, so few laws have to be made instead of hundreds. AI creation
and advancement won’t stop, so it is important to educate and protect yourself the best you can.

References


Gordon-Levitt, J. (2023, July 28). *If artificial intelligence uses your work, it should pay you*. ProQuest. Retrieved May 5, 2024, from https://www.proquest.com/docview/2842698608?accountid=14612&parentSessionId=w%2FKfKEe61bOoVAEGm1llbTgWM%2BKuvey7j8IOg8zhmyvHQ%3D&sourceType=Newspapers

AI and the Entertainment Industry


AI and the Entertainment Industry


AI and the Entertainment Industry


Appendix

Pew Research: Public Awareness of AI in Everyday Activities

Kennedy, B., Tyson, A., & Saks, E. (2023, February 15)

U.S. adults with higher levels of education and income demonstrate greater awareness of AI in daily life

<table>
<thead>
<tr>
<th>Level of awareness about artificial intelligence applications in daily life</th>
<th>HIGH (All 6 questions correct)</th>
<th>MEDIUM (3-5 correct)</th>
<th>LOW (0-2 correct)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. adults</td>
<td>36</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>Men</td>
<td>36</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td>Women</td>
<td>39</td>
<td>26</td>
<td>29</td>
</tr>
<tr>
<td>White</td>
<td>34</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Black</td>
<td>34</td>
<td>32</td>
<td>35</td>
</tr>
<tr>
<td>Hispanic</td>
<td>34</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>Asian*</td>
<td>34</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>Ages 18-29</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>30-49</td>
<td>35</td>
<td>37</td>
<td>35</td>
</tr>
<tr>
<td>50-64</td>
<td>30</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>65+</td>
<td>25</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Postgrad</td>
<td>33</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>College grad</td>
<td>33</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Some college</td>
<td>29</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>HS or less</td>
<td>27</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Upper income</td>
<td>59</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>Middle income</td>
<td>50</td>
<td>48</td>
<td>50</td>
</tr>
<tr>
<td>Lower income</td>
<td>38</td>
<td>46</td>
<td>38</td>
</tr>
<tr>
<td>Rep/lean Rep</td>
<td>31</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>Dem/lean Dem</td>
<td>28</td>
<td>33</td>
<td>23</td>
</tr>
</tbody>
</table>

*Estimates for Asian adults are representative of English speakers only.

Note: All questions are multiple choice; for full question wording, see topline. White, Black and Asian adults include those who report being only one race and are not Hispanic. Hispanics are of any race. Family income tiers are based on adjusted 2021 earnings.

Source: Survey conducted Dec. 12-18, 2022

"Public Awareness of Artificial Intelligence in Everyday Activities"

PEW RESEARCH CENTER

Americans who regularly use the internet are more likely to be aware of AI in their lives

<table>
<thead>
<tr>
<th>Level of awareness about artificial intelligence applications in daily life</th>
<th>HIGH (All 6 questions correct)</th>
<th>MEDIUM (3-5 correct)</th>
<th>LOW (0-2 correct)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. adults</td>
<td>30</td>
<td>38</td>
<td>31</td>
</tr>
<tr>
<td>Among those who have heard ___ about artificial intelligence</td>
<td>47</td>
<td>42</td>
<td>31</td>
</tr>
<tr>
<td>A lot</td>
<td>47</td>
<td>39</td>
<td>28</td>
</tr>
<tr>
<td>A little</td>
<td>42</td>
<td>42</td>
<td>43</td>
</tr>
<tr>
<td>Nothing at all</td>
<td>29</td>
<td>31</td>
<td>34</td>
</tr>
</tbody>
</table>

Note: All questions are multiple choice; for full question wording, see topline.

Source: Survey conducted Dec. 12-18, 2022

"Public Awareness of Artificial Intelligence in Everyday Activities"

PEW RESEARCH CENTER