

AI INTERSECTIONS

# Generative AI and the Creative Class

What the rise of generative AI means  
for America's creative professionals  
and the industries they work in



# For the creative class, the rise of generative AI poses an existential question

For millennia, creativity was seen as an integral part of what it meant to be human—one of the key features, if not *the* feature, that separated us from the rest of the animal kingdom. Only humans, we thought, could compose a sonnet, paint a portrait, or write the great American novel.

The ascent of generative AI, therefore, presents a major challenge not only to our understanding of creativity and its limits, but to our basic conception of our own humanity. As machines rapidly approach and exceed parity with human creatives across an ever-growing number of fields, we will be forced to re-evaluate our preconceived notions about the lines that separate mechanical minds from organic ingenuity.

Workers in creative professions have both the most to lose and the most to gain from the AI revolution. Writers, designers, artists, photographers,

musicians, and many other creatives have already begun to incorporate generative AI tools into their workflows—often, to great effect. At the same time, many of those same creatives are deeply concerned about the future of their professions, as they wonder whether there will still be a place for them and their creative output in a world saturated with AI-generated content.

This report unpacks the effect that generative AI has had, and will continue to have, on America's creative class. It explores how creative professionals have begun to adapt to the AI applications available to them, and the longer-term impact that these tools may have on creative industries. And it provides actionable recommendations for technology companies and AI developers looking to serve the needs of the creative class.



## PART 1: THE STORY SO FAR

### How have creative class professionals adapted to the rise of generative AI?

#### IN THIS SECTION, YOU'LL FIND...

- Adoption rates for generative AI among the creative class
- The impact that generative AI tools have had on the workflows of creative professionals
- The key benefits of generative AI to creatives
- The most common frustrations experienced by creatives using generative AI tools
- The steps creatives are taking to prepare themselves for the continued growth of generative AI services

This paper is part of a larger research program at NRG to evaluate and understand the socio-cultural impact of generative AI, and the long-term repercussions the technology could have for key industries.

To explore the full range of papers in this series, visit [our website](#). Or, to discuss these findings in more detail or arrange a personalized briefing or webinar, reach out to us at [inquiry@nrgmr.com](mailto:inquiry@nrgmr.com).

## PART 2: THE FUTURE UNFOLDS

### What impact will generative AI have on creative industries and professions?

#### IN THIS SECTION, YOU'LL FIND...

- The effects, both positive and negative, that creative professionals expect generative AI to have on their industries
- The types of creatives most likely to benefit and lose out from the rise of generative AI
- The implications of the AI "misinformation crisis" for creative professions
- The scale of the intellectual property challenges facing creative industries
- The potential for generative AI to fundamentally reshape our understanding of creativity and the role it plays within our culture



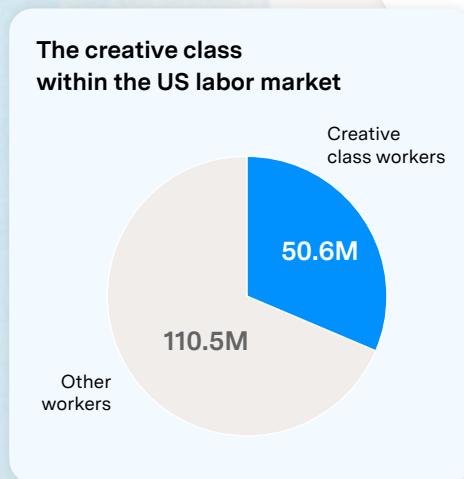
# What is the creative class?

First described by urban studies theorist Richard Florida in 2002, the creative class is a socioeconomic cohort, which, in Florida's analysis, represents the key engine of economic growth for developed economies in the 21st century.<sup>1</sup>

This class includes workers across a broad range of occupations including scientists, engineers, high-level managers, lawyers, artists, and more. Fundamentally, membership of the creative class is not defined by the industry a person works in, but by the nature of the work they engage in on a day-to-day basis.

**Creative class professionals are those whose work involves the creation of new knowledge or forms of creative expression, or the application of existing knowledge in novel ways to solve complex intellectual challenges.**

In the US, the creative class today is made up of over 50 million workers—representing approximately 31% of the total labor market.<sup>2</sup> For the purposes of this research, and to better understand specific exposure to generative AI applications, we have further segmented this group into “core creatives,” whose day-to-day work involves the production of creative material and the use of specialist creative software, and the broader creative class.



1. Pete Saunders, “The Evolution Of The Creative Class,” Forbes, May 4th, 2017  
 2. Analysis conducted by Westwood Economics & Planning Associates



## WHY DOES THE CREATIVE CLASS MATTER?

From a research and insights perspective, understanding the experiences and attitudes of the creative class can provide an invaluable look into long-term cultural and technological trends.

For one thing, this group wields outsized economic influence; average annual incomes among workers in creative occupations are around \$15,000 higher than the general population. Such workers also tend to have more disposable income, spending a smaller percentage of their earnings on rent or mortgage payments than workers in other fields.

This is also a highly educated audience—made up of critical tastemakers and trendsetters who often act as a cultural vanguard for the country as a whole. Seventy-eight percent of creative class professionals hold a bachelor's degree, compared to just 40% of the American labor market as a whole.

Over the past two decades, America's cities have gone out of their way to attract members of the creative class, recognizing the unique ability that this group has to stimulate innovation and inject new life into local economies.<sup>3</sup> Likewise, enterprises have learned just how crucial it is to understand the needs and priorities of their creative workers. Analysis by McKinsey has demonstrated that firms which invest in the growth and the wellbeing of their creative professionals tend to outperform their peers on a wide variety of financial metrics.<sup>4</sup>

3. Richard Florida, “Maps Reveal Where the Creative Class Is Growing,” Bloomberg, July 9th, 2019  
 4. Marc Brodherson, Jason Heller, Jesko Perrey, and David Remley, “Creativity's bottom line: How winning companies turn creativity into business value and growth,” June 16th, 2017

## IDENTIFYING THE CREATIVE CLASS

To better understand the makeup of the American creative class, and how to effectively target this audience, NRG partnered with Westwood Economics & Planning Associates, a leading economic research firm.

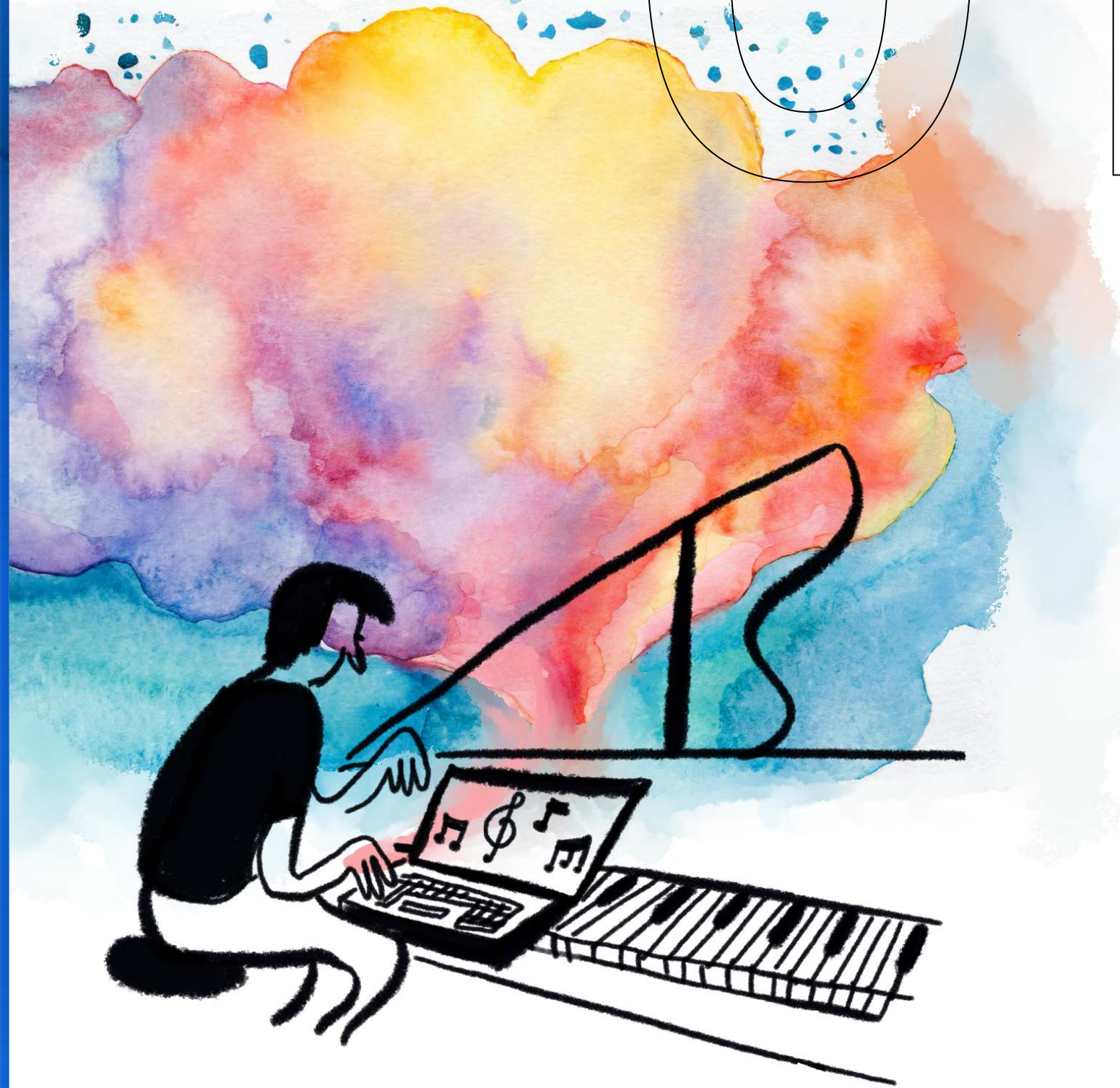
The team at Westwood assessed job definitions from the Occupational Information Network (O\*NET) to understand the degree of creative thinking required for each of them. Through this analysis, they were able to identify a core list of creative occupations—which could then be mapped against data from the General Social Survey (conducted by NORC at the University of Chicago) for validation purposes and to understand the demographic and attitudinal differences between creative workers and the rest of the population.

The findings from this research were then used to inform the design of a survey of 1,504 members of the US creative class, ages 18 to 64, conducted in February 2024. Unless otherwise noted, all data cited in this report comes from that study.

The identification of creative class members for this survey was based on three key criteria. Firstly, individuals were asked to assess the overall degree of creativity required by their job. Secondly, they were asked about the degree of autonomy present in their working environment; unlike many other workers, creative professionals tend to be able to determine for themselves how to approach the tasks they face at work. And finally, they were asked to identify the specific tasks required of them by their jobs.

While generative AI may still be a technology in its relative infancy, it's clear that the creative class will represent a crucial part of the audience for AI products and services. Through this innovative research approach, we have been able to develop a new level of insight into how creative workers are responding to the AI revolution.

# 01



## THE STORY SO FAR

# How have creative class professionals adapted to the rise of generative AI?

## IN THIS SECTION, YOU'LL FIND...

- Adoption rates for generative AI among the creative class
- The most common frustrations experienced by creatives using generative AI tools
- The impact that generative AI tools have had on the workflows of creative professionals
- The steps creatives are taking to prepare themselves for the continued growth of generative AI services
- The key benefits of generative AI to creatives

# Two-thirds of creative class professionals have now used generative AI applications

It's been over a year since the public release of ChatGPT and the beginning of the current generative AI boom—and America's creative professionals have been quick to embrace the technology. In total, 66% of creative class professionals have used generative AI, either in the form of a dedicated AI product such as MidJourney or Jasper AI, or by taking advantage of generative AI functionality incorporated into applications such as Photoshop. Among "core creatives," adoption rates for AI are even higher: 79% of this group have used at least one generative AI application.

However, most creatives who have experimented with generative AI applications have not yet made the jump to regular usage. Currently, only 17% of creative class professionals say that they're using generative AI on a regular basis. And among creatives who have used generative AI applications at least once, only about half (49%) have used them for professional purposes. **Most creative class professionals, it seems, are still in the exploratory phase of generative AI adoption**—experimenting with the tools, assessing what they're capable of, but not yet willing to rely on them in high-stakes environments.

Notably, core creatives are significantly more likely than other members of the creative class to have incorporated generative AI into their regular workflows—likely a reflection of the fact that these are the sorts of people most likely to already be using graphic design tools, video editing software, or other types of specialist creative applications, many of which have taken steps to build generative AI functionality into the core offerings over the past 12 months.<sup>5</sup>

5. Stephen Nellis, "Adobe adds generative AI features to Photoshop software," Reuters, May 23rd, 2023

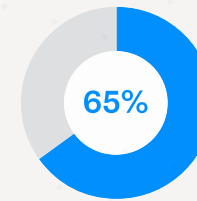


*For creatives, I think there's a pressure right now to be using AI; there's a sense that, if you don't figure out how to use it effectively now, you're going to fall behind all the people that are using it.*

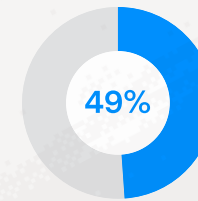
**JACK JENKINS**  
Presenter, compere, and comedy performer

## Q: In what contexts have you used generative AI applications?

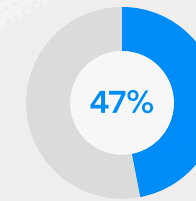
Creative class professionals who've used generative AI at least once



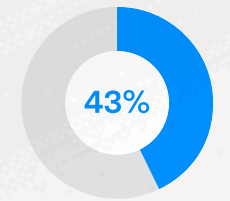
For fun; playing around with the tools and seeing what they can do



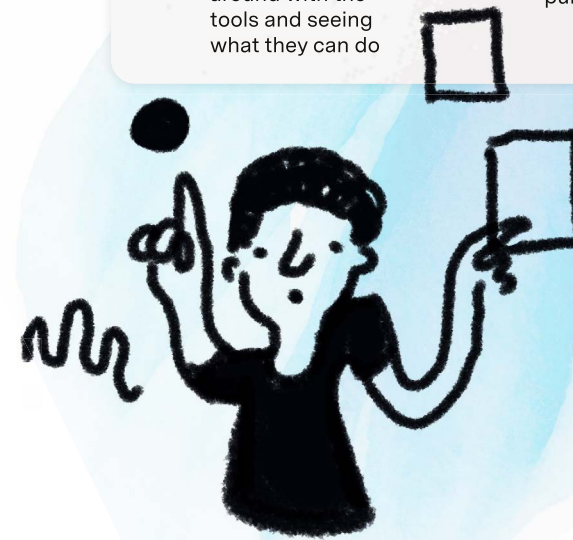
For professional purposes



For personal creative projects



For personal non-creative asks



To an extent, this effect may be the result of how existing AI applications have been marketed to consumers.<sup>6</sup> But it also reflects the fact that **female creatives are more acutely aware of some of the potential negative externalities associated with the development of ever-more-powerful AI systems.**

Predictably, younger creatives have proven the most willing to experiment with and seek out generative AI applications. Seventy-seven percent of Gen Z creative class members, for example, have used at least one generative AI application—compared to only 44% of Boomers.

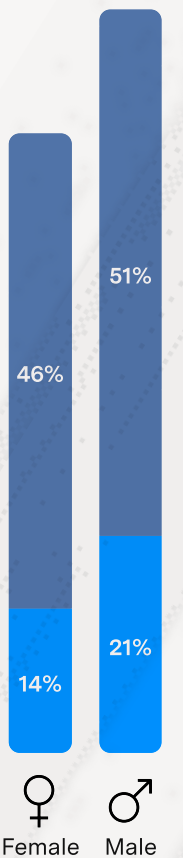
Less self-explanatory is the substantial gender divide that has opened up in terms of AI adoption amongst the creative class: men are 12 percentage points more likely to have used generative AI than women, and are also more likely to have incorporated AI tools into their day-to-day workflows.

For example, there's been substantial coverage of the way in which large language models can reinforce and amplify sexist or racist attitudes present within the material they have been trained on.<sup>7</sup> Thirty-one percent of female creatives say that they're concerned about the ability of AI to perpetuate bias, compared to just 19% of men. Similarly, women are also more likely to express alarm at the potential for AI image generators to be used to harass people online through the creation of sexually explicit images—a fear starkly illustrated by a recent incident in which AI-generated images of Taylor Swift spread rapidly across social media platforms.<sup>8</sup>

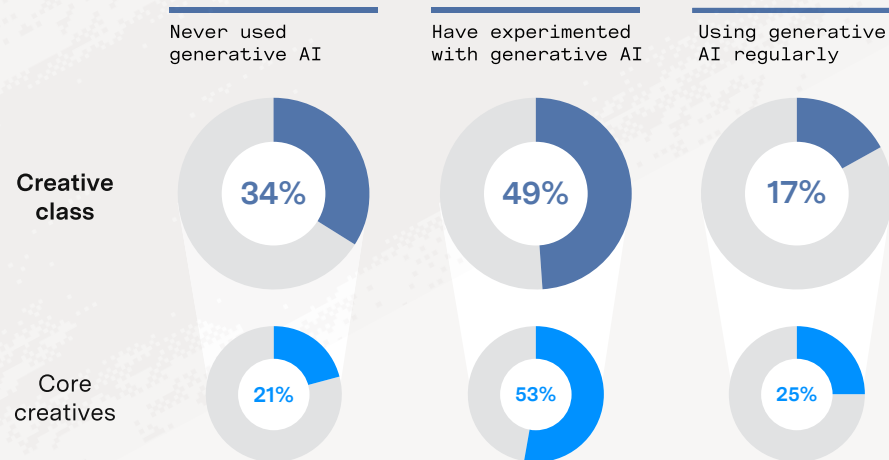
6. MaryLou Costa, "Why are fewer women using AI than men?", BBC News, November 2nd, 2023  
7. Marie Lamensch, "Generative AI Tools Are Perpetuating Harmful Gender Stereotypes," Centre for International Governance Innovation, June 14th, 2023  
8. Jess Weatherbed, "Trolls have flooded X with graphic Taylor Swift AI fakes," The Verge, January 25th, 2024

## Creative class professionals using AI

■ Experimented with generative AI  
■ Using generative AI regularly



## Q: How would you describe your use of generative AI applications?



Q: Why haven't you used any generative AI applications?

*I'm satisfied with my current creative tools and don't see a need to change 34%*

*I haven't had time to explore these tools 37%*

*I have ethical concerns about AI 32%*

*I don't see how generative AI would be relevant to my area of work 28%*

*I'm worried about my data privacy when using generative AI 27%*

While these sorts of ethical concerns are one factor acting to inhibit further adoption of generative AI among the creative class, they aren't the only one—or even the most significant. Among creatives who haven't yet used any generative AI applications, the most common reason—cited by 37% of respondents—was a simple lack of time to adequately explore the different options currently on the market. Additionally, 34% of non-users said that they just didn't feel any need to use generative AI, given that they were satisfied with their existing creative tools.

This speaks to one of the core obstacles standing in the way of mass adoption of generative AI tools among the creative class. While busy creative professionals,

for the most part, recognize the potential for AI platforms to streamline their workflows and save them significant amounts of time, many are put off by the upfront time investment required to familiarize themselves with these tools and their capabilities. Some may feel as if the rug is being pulled out from underneath them; they've spent years or even decades becoming true experts in one set of creative applications, and now they're being asked to learn how to use a whole new category of technology products.

Most creatives, however, acknowledge that they will eventually need to "bite the bullet." Indeed, the majority of AI "holdouts" within the creative class accept that they will likely come into

contact with the technology at some point in the future; only 12% of them say that they would refuse to use generative AI applications under any circumstances.

That reflects a growing awareness within creative industries—identified by many of the creatives interviewed for this paper—of a competitive pressure to, at the very least, begin familiarizing themselves with generative AI tools. Even those who have ethical concerns about the technology—or simply aren't interested in it—may eventually find themselves required to use it, either at the direct request of clients or employers, or in order to keep pace with the productivity of peers who have already embraced the technology.

# ChatGPT has a considerable lead over its closest rivals in adoption among the creative class

The launch of ChatGPT, by some measures the fastest growing consumer app of all time,<sup>9</sup> arguably ignited the technology sector's current AI arms race—or, at least, brought it into the mainstream. And that explosive early growth has helped the service to secure a commanding lead over its rivals when it comes to adoption among creatives. Almost half (47%) of America's creative class professionals have used ChatGPT at least once—more than three times the number who have tried its closest

9. Jon Porter, "ChatGPT continues to be one of the fastest-growing consumer services ever," The Verge, November 6th, 2023

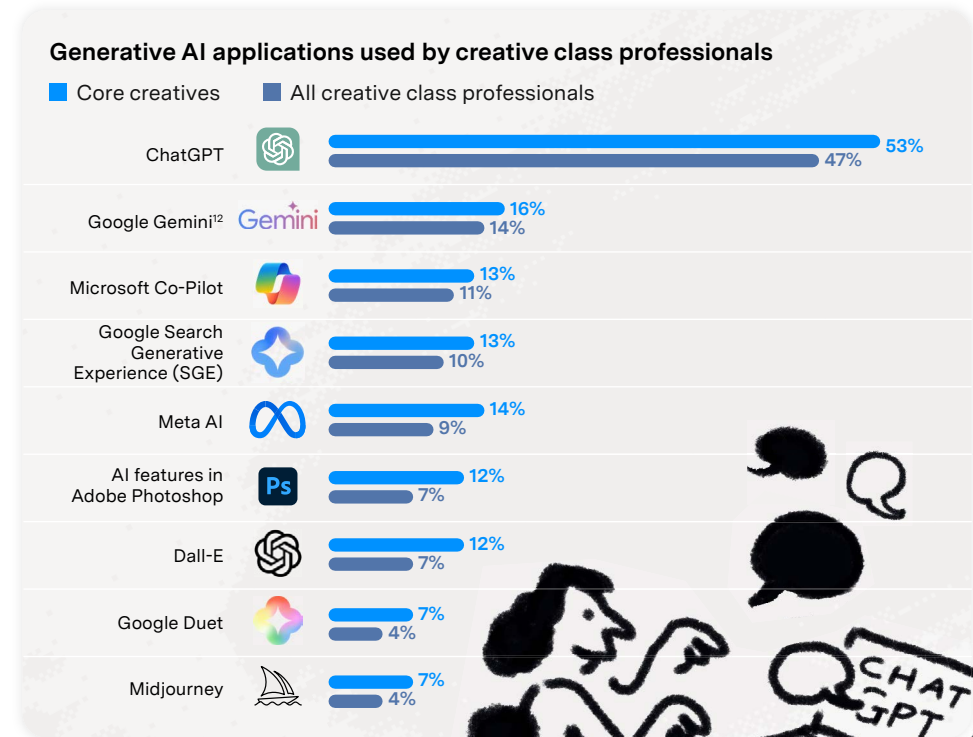
competition, Google's Gemini chatbot and virtual assistant (marketed as "Google Bard" until February 2024).<sup>10</sup>

In many respects, the creative class has been at the forefront of helping to popularize ChatGPT among a wider audience. A study conducted by Pew Research Center in late 2023 found that only 18% of US adults had used ChatGPT<sup>11</sup>—meaning that **creative class professionals are more than twice as likely as the average American to have interacted with OpenAI's flagship consumer product.**

And those who try ChatGPT tend to stick around. Over half (54%) of creatives who have used the service say that they are continuing to do so on at least a weekly basis. So, what's the secret behind the platform's stickiness?

A big part of the positive response to ChatGPT within the creative class can be put down to the platform's accessibility and intuitive UI. Across the most popular generative AI platforms, users generally report similar levels of satisfaction with the quality of their outputs—with the exception that AI image generators, such as MidJourney and Dall-E, have slightly lower levels of user satisfaction than text-based chatbots and virtual assistants. This may suggest that image generators, compared to text-based AI platforms, have a steeper learning curve, requiring a greater upfront investment of time and effort before users can reliably generate outputs that meet their expectations.

It's in ease of use, however, where ChatGPT truly stands out from the crowd. **Fifty-four percent of the service's users describe it as "very easy to use," more than for any other widely used generative AI application.** The platform's simplicity and intuitive interface, combined with the low financial barrier to entry created by its freemium pricing model, have played a key role in cementing its status as the go-to large language model for creative professionals—and have made it, for many, almost synonymous with the entire concept of generative AI.



12. Referred to in survey as "Google Bard"

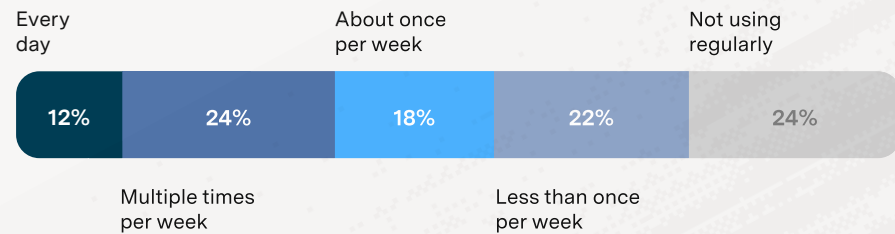


10. Lavina Suthenthiran, "Google Rebrands AI Chatbot Bard to Gemini and Rolls Out New App Offering," RetailWire, February 9th, 2024

11. Eugenie Park and Risa Gelles-Watnick, "Most Americans haven't used ChatGPT; few think it will have a major impact on their job," Pew Research Center, August 28th, 2023

**Q: How often do you use ChatGPT?**

Creative class professionals who have used ChatGPT at least once



These factors have also helped ChatGPT to secure a dominant position in the nascent market of subscription-based generative AI services. **Eight percent of creative class professionals—and 16% of core creatives—subscribe to such a service** (not counting subscriptions to products like Adobe Photoshop which have incorporated some AI functionality into their existing offerings).

An analysis of financial data conducted by Earnest Analytics in September 2023 found that ChatGPT accounted for 73% of consumer spend in this market—dwarfing competitors such as Jasper AI, Quillbot, and VEED.IO.<sup>13</sup> Growth in this market has been concentrated among

13. "ChatGPT dominates commercial AI spending," Earnest Analytics, September 27th, 2023

high-earners: sales of AI subscription services to subscribers earning in excess of \$190,000 grew between 400% and 565% over the course of 2023,<sup>14</sup> illustrating the extent to which such tools can be uniquely valuable for managers, leaders, and those in high-paying information economy jobs.

While ChatGPT's capabilities may have expanded considerably beyond text-based communication, that kind of output remains the most common use case for generative AI within the creative class. Among creatives who have used generative AI, 65% of them have used it to create written text.

14. "AI Series Part 1: AI Tools buyers overwhelmingly highest income earners," Earnest Analytics, February 12th, 2024



*When preparing material for my act, I've started using ChatGPT as a bit of a sounding board—a silent partner, basically, that I can bounce ideas off of. I'll give it the parameters of what I'm looking for and have it spit out different starting points. Ultimately, I have to trust my own instincts more than I trust the AI, but it's a useful tool to give you a fresh perspective when you've been stuck staring at a wall for a while.*

**JACK JENKINS**

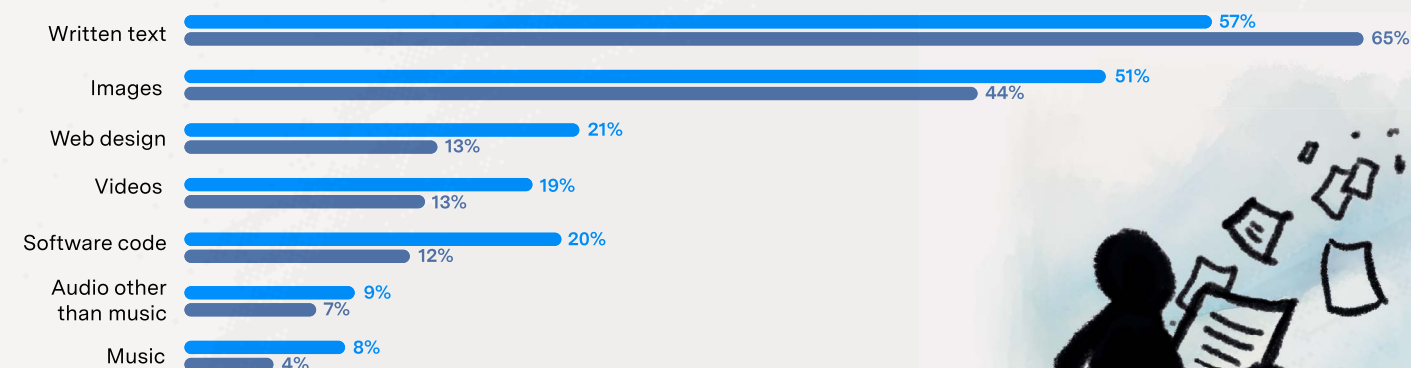
Presenter, compere, and comedy performer

At the other end of the spectrum, fewer than 10% of creatives who've used generative AI have ever tried to produce audio output using the technology. It's possible, therefore, that audio could represent the next major source of untapped growth for creatively-oriented generative AI products. While there are now a range of text-to-audio AI applications available to consumers—capable of generating music, voiceover, or other types of audio output based on text prompts<sup>15</sup>—none of these products appear to have yet built the kind of user-base enjoyed by the leading conversational AI platforms or AI image generators.

15. Ben Wodecki, "AI Audio Generation: Everything You Need to Know," AI Business, August 30th, 2023

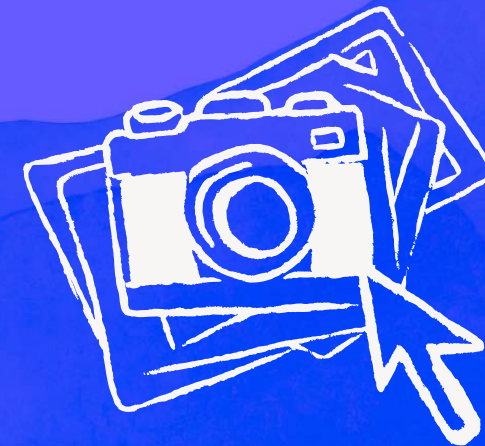
**Q: What types of creative output have you used generative AI to help produce?**

Creative class professionals who've used generative AI at least once



**Industry spotlight:**

**Photography**



**ROBERT HARDIN**

Photographer

**Q: How have you benefited from incorporating generative AI into your workflows?**

The AI tools in applications like Photoshop and Lightroom have been saving me boatloads of time recently. I've been using it a lot for minor adjustments—things like removing the glare from someone's glasses, or tidying up stray hairs in a portrait. These are all things I could have done before, but it used to be a 5 to 30 minute process; now, 95% of the time I can do that sort of thing with just a few clicks. Or if I need to select one subject from a photo, I can do that now without having to manually crop around them.

These may all sound like small improvements, but when you're going through 100 different photos you've taken for a client, even if it saves you just a couple of minutes on each one, that's hours of time you're getting back.

**Q: Looking ahead—do you think that AI will make it harder to build a sustainable career in photography?**

For photographers, I think that the impact of generative AI on people's careers is going to depend a lot on what specific niche they're in. For commercial photographers, it's definitely a challenge: is someone really going to spend a couple hundred bucks on a set of professional headshots when they can spend \$70 on some online AI service, upload 10 selfies, and get back something that does the job for them? On the other hand, there are fields—like photojournalism—where authenticity and provenance matter a lot more.

I could see a future where generative AI forces the whole field of photography to fragment into different genres and niches. Maybe there will be a specific niche for people who want something more artisanal, something you know was made by a human—maybe people will even go all the way back to using celluloid. And then on the other hand, there will be people who really embrace the potential of AI and create something that's very different from what we understand photography to be today. I've already heard people use the term "promptographer" to describe that new type of profession. That's exciting, in a way; the thought that we could stumble into some sort of new genre that's still totally unknown or unexpected.

**Q: So, do you still see a role for traditional photography in a post-AI world?**

I don't think AI will eliminate the need for traditional photography, because they serve such different purposes. It's like when motion pictures were invented. There are a lot of similarities, in terms of the skills required, between composing a still photograph and composing a visual shot in a film. But despite those similarities, neither of those art forms has destroyed the other—because they have different strengths and weaknesses.

As a commercial photographer, you have to look at the tools that are available to you and try to understand them. You have to respond to what clients are looking for; you can't just stick your head in the sand. Like, if you only shot on film and refused to use digital photography, you'd be limiting your market considerably. And I think it's going to be the same with AI. If nothing else, you need to try to understand exactly what it is and what it's capable of, so even if you choose not to use it, you can make that decision in an informed way. Or maybe, by spending time learning about it, you come to realize there are some use cases that you want to use it for, and others where you want to consciously avoid it.

Illustration above generated using Adobe Firefly, with permission and style references provided by our illustrator Hannah Robinson, to demonstrate integration of AI-generated and human content.

# For the creative class, generative AI can enable substantial productivity gains



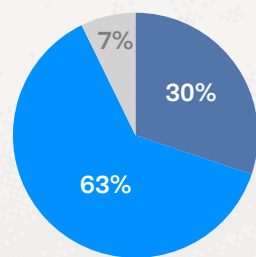
However, just because the majority of creative class professionals have now had at least some personal experience using generative AI, it doesn't follow that all have elected to use these tools in the same way. Within the creative class, there are competing visions for the precise role that AI ought to play in the creative process, and how it can be integrated into creatives' workflows in a way that preserves artistic integrity.

For many creatives, generative AI is, fundamentally, a productivity enabler. Think, for example, of the marketing manager using a service like Jasper to edit advertising copy for use across different mediums, or the photographer using generative AI tools in Photoshop to speed up the editing process for large batches of images. Used in this way, AI can act as a virtual intern or assistant for experienced creatives; helping them to complete tasks they've already mastered, but in a less time- and labor-intensive way.

This, in turn, can have significant knock-on benefits. Some creatives have found that, by delegating their more tedious or administrative tasks to an AI, they've not only increased the volume of their output, they've freed up time to focus on creative activities that drew them to the profession in the first place: less time spent on tagging and organizing photos, for example, can mean more time in the field, camera in-hand. **At its best, therefore, generative AI can inject creative professionals with a newfound sense of meaning and purpose,** eliminating "busywork" and reorienting their professional lives around the type of activities they have a genuine passion for.

## Q: How would you describe your use of generative AI?

Creative class professionals who use AI on a regular basis



■ "Generative AI tools can allow me to achieve things I could never have achieved before"

■ "Generative AI tools allow me to do the things I was already doing, but more efficiently"

■ Don't know



Some creatives, however, have opted for a different approach. Instead of seeing AI as, primarily, a productivity enabler, they've instead begun to treat generative AI applications as true artistic partners—using them to increase not just the volume, but also the *quality* of their creative output.<sup>16</sup>

For certain types of creative professionals, conversational AI platforms like ChatGPT can act as helpful brainstorming partners with which to bounce ideas around and explore different creative possibilities. **Generative AI also opens up the possibility for creatives to push beyond their core skill sets and venture into mediums that exceed their pre-AI capabilities.** For example, a screenwriter who wants to bring a concept to life for a prospective investor might choose to incorporate AI-generated art into their pitch deck. Or a visual artist with limited web design experience might now be able to build a professional-looking online portfolio themselves instead of commissioning one from a developer.

<sup>16</sup> David De Cremer, Nicola Morini Bianzino, and Ben Falk, "How Generative AI Could Disrupt Creative Work," Harvard Business Review, April 13th, 2023

At present, though, **the data suggest that efficiency-based use cases for generative AI are the dominant ones among the creative class.** Sixty-three percent of regular AI users say that they see it as, primarily, a tool for enabling them to complete tasks more quickly and efficiently—rather than one that can allow them to achieve things they weren't previously capable of. Moreover, the time savings incurred through the use of AI were the single most commonly cited benefit of AI, mentioned by almost 6 in 10 users when prompted to think about how the technology has positively impacted their creative process.

**57%**

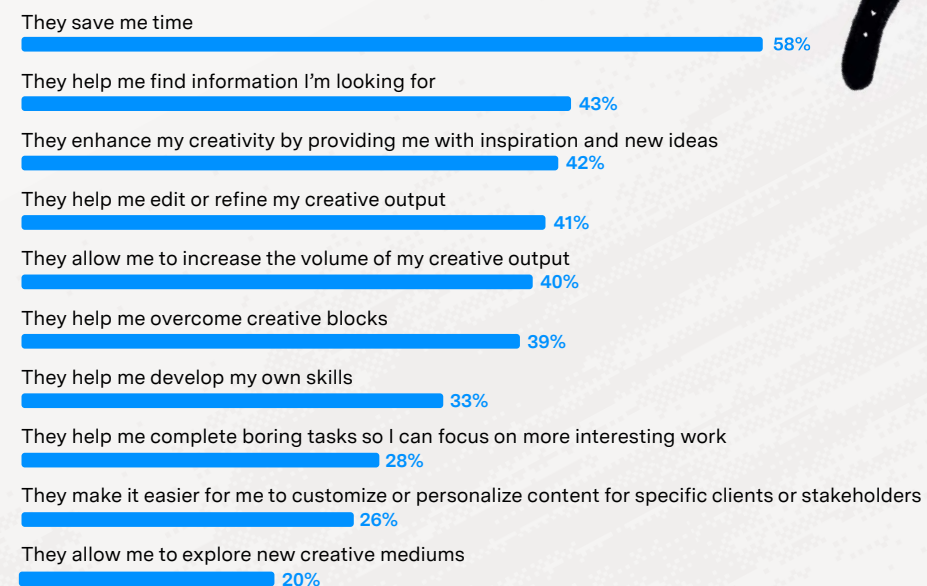
of creative class professionals think that AI will lead to higher expectations for productivity in creative fields.

Those efficiency gains, however, can be something of a double-edged sword. **Some creatives have begun to worry about the possibility of an AI-fuelled "productivity arms race" within their industries.** As generative AI applications become more and more common within creative industries, employers and clients will elevate their expectations for the volume of work that can be produced in a given timeframe, forcing creative workers to lean more and more heavily on such applications—potentially causing their core creative skills to atrophy.

In total, more than half of workers in creative fields expect that the growing power and prevalence of AI tools will lead to higher baseline productivity expectations within their fields—further contributing to a sense among many that they are faced with a choice to either start learning how to use the technology effectively now, or risk being left behind.

## Q: How have you benefited from generative AI applications?

Creative class professionals who have used generative AI for personal or professional creative projects



*I really don't want to see people treat AI as a replacement for human creativity, or as a way of simplifying and automating the creative world; we don't need to turn everything into a machine. But on the other hand, I think there are a lot of valid use cases for AI in creative industries when it comes to the project management side of things—streamlining tasks that aren't a core part of the creative process, but which are an important part of helping creatives to do their jobs. Things like going into your calendar and helping you prioritize different activities—or analyzing product feedback from customers to help understand the issues they're encountering and how you could address them.*

### LINSI SPIES

Creative project manager

*Generative AI has had a significant impact on my workflow; I'm using those sorts of tools multiple times per week now. It's a very useful failsafe for me: if I've been shooting at a property and then I realise later that the sky wasn't quite right or there's something I should have taken out of the frame, I don't have to go all the way back there and take a new set of photos.*

### STEVE WASKOW

Videographer

*For me, generative AI has been a huge efficiency boost. Previously, I tended to focus exclusively on one script at a time. But now, I can have three or four in development at the same time, and use AI to help me stay on top of all of them.*

### MICHAEL MALAGON

Filmmaker and screenwriter



# Reliability and data security are creatives' most common complaints about existing AI applications

Given that most users of generative AI applications in the creative class treat these tools as, fundamentally, catalysts for productivity, it's easy to see why the most common frustrations are the moments that reduce efficiency and create friction.



The common problems with generative AI applications—such as the phenomenon of “AI hallucination” sometimes demonstrated by chatbots,<sup>17</sup> or the telltale artifacts that can crop up in AI-generated images<sup>18</sup>—are well-documented. In total, **30% of creatives who had used AI applications said that they had been frustrated by the inconsistent quality of results**, and that they found themselves frequently having to make manual corrections to the outputs.

The same percentage cited data security as an issue they had encountered when using generative AI applications—a concern perhaps exacerbated by recent coverage of data breaches and security vulnerabilities at OpenAI.<sup>19</sup> Previous NRG research has found that a hesitancy to share personal data with AIs is one of the biggest barriers preventing ordinary consumers from getting more value out of these products.<sup>20</sup> Similarly, data and security risks are typically top-of-mind for IT executives looking to purchase AI solutions for their organizations.<sup>21</sup>

It's only to be expected, therefore, that creative class professionals would share these concerns—especially considering the fact that many of them work in knowledge economy jobs that frequently involve the handling of sensitive customer or commercial data.



*Even though I've been using it a lot, I still feel like I'm in the exploratory stage with AI, and there's probably a lot more I could be using it to do. That's probably the biggest frustration I have with existing AI tools: you have to put in a lot of time upfront to learn how to use it effectively and figure out what works for you.*

**MICHAEL MALAGON**  
Filmmaker and screenwriter

*I do laugh sometimes at how quickly we become spoiled by new product features. The AI tools in Photoshop and Lightroom might be accurate 98% of the time, but I still find myself annoyed the 2% of the time they don't work correctly. And then you have to stop and remind yourself that 12 months ago, this wasn't even an option to begin with!*

**ROBERT HARDIN**  
Photographer

Beyond reliability and security concerns, **creatives also exhibit a strong desire to be able to exert greater control over the AI applications they use.** Creatives using AI frequently commented on the difficulty of getting these applications to consistently produce work that aligned with their specific creative vision, and expressed a desire to be able to more easily fine tune the style of outputs.

It's possible, therefore, that personalization will be the next frontier for generative AI applications marketed toward professional creatives. Already, things seem to be moving in that direction. OpenAI, for example, recently announced that ChatGPT would begin retaining knowledge about its users across different chats, allowing it to learn their preferences and adapt its outputs accordingly.<sup>22</sup> And Firefly, Adobe's flagship AI image generator, now includes “Generative Match” functionality, allowing users to upload reference images to help dictate the style of the final output.<sup>23</sup>

There's a famous—potentially apocryphal—story about the origins of boxed cake mix.<sup>24</sup> Early mixes, supposedly, failed to sell because they were too easy to use, and left home cooks feeling as if they were somehow cheating. It was only once manufacturers changed the recipe to require the addition of an egg that they started flying off the shelves. And so it goes with AI. Creative workers don't just care about the final product; they have an emotional investment in the creative process itself. **So, the more opportunities that generative AI platforms give them to exert control over that process, the greater the sense of ownership they're likely to feel over the end result,** and the more likely they are to make these platforms a core part of their creative toolkit.

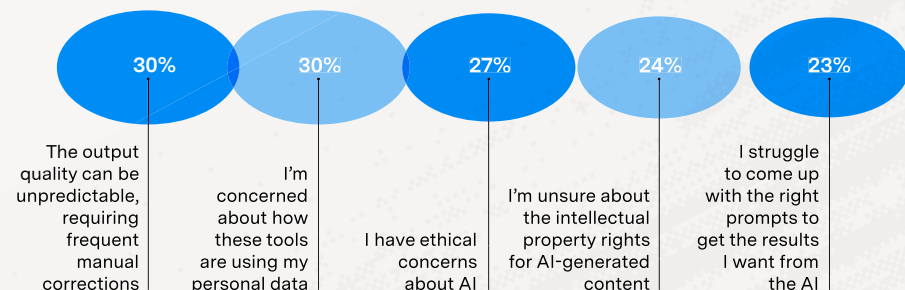


*I'd love to see AI tools add the ability to fine tune them and customize the parameters to match your specific style and aesthetics. Take color corrections, for example. Everyone has their own preferences and their own way of perceiving color: I can often tell which of my colleagues worked on a photo just by looking at the color balance. So I'd love to be able to teach an AI how I personally like to do things and have it do that automatically. That might also create some exciting opportunities for collaborative working; you could share your preferences with others so that you could ensure consistency across photos you're working on, or you could even create a seamless blend of different people's styles.*

**STEVE WASKOW**  
Videographer

## Q: What frustrations have you experienced when using generative AI?

Creative class professionals who have used generative AI at least once



## TOP 10 FEATURES & IMPROVEMENTS CREATIVE CLASS PROFESSIONALS WOULD LIKE TO SEE ADDED TO AI APPLICATIONS

- |   |  |    |   |
|---|--|----|---|
| 1 | Higher-quality results with fewer errors or anomalies                        | 6  | Features that address ethical concerns (e.g., bias reduction tools)       |
| 2 | Stronger guarantees and controls for data privacy and security               | 7  | Improved ability to fine-tune outputs to match the user's creative vision |
| 3 | More intuitive, user-friendly interface                                      | 8  | Faster processing speed   |
| 4 | Built-in tutorials   | 9  | Voice interface   |
| 5 | Better guidelines on the ownership and usage rights for AI-generated content | 10 | Adjustable “personality” for the AI                                       |

17. Cheyenne DeVon, “AI chatbots can ‘hallucinate’ and make things up—why it happens and how to spot it,” CNBC, December 22nd, 2023

18. Meghan Bartels, “How to Tell If a Photo Is an AI-Generated Fake,” Scientific American, March 31st, 2023

19. Matt Burgess, “OpenAI's Custom Chatbots Are Leaking Their Secrets,” Wired, November 29th, 2023

20. “Planes, Trains, and Large Language Models,” NRG, May 9th, 2023

21. “The Enterprise AI Journey,” NRG, December 15th, 2023

22. Lauren Goode, “OpenAI Gives ChatGPT a Memory,” Wired, February 13th 2024

23. Mascha Deikova, “Improved Naturalism and Better People Generation in Adobe Firefly Image 2 - A Review of New Features,” Cine D, November 28th, 2023

24. Veronique Greenwood, “Why cake mix lacks one essential ingredient,” BBC Future, November 10th, 2017

## Industry spotlight:

# Software development

**REM WRANSKY**  
Research engineer

**Q: What's your personal experience with using AI to write code been like?**

Honestly, generative AI has been more of a frustration to me than a benefit so far. I've tried using it for personal projects; for example, if I'm working on a website and I want to get the CSS to look a certain way, or if I'm trying to get the site to behave the right way on mobile versus desktop. For that kind of stuff, ChatGPT knows about as much as any random person on Stack Overflow or any other help forum—because, you know, that's where it's scraping its data from.

But as soon as you try to really dive into the thinking, that's where the frustration comes in. Unless you happen to get lucky and ask a question in exactly the right way, too often you end up with something that either misses the mark completely or is too generic to be of any use.

**Q: What would need to change to make generative AI a useful tool for your work as a developer?**

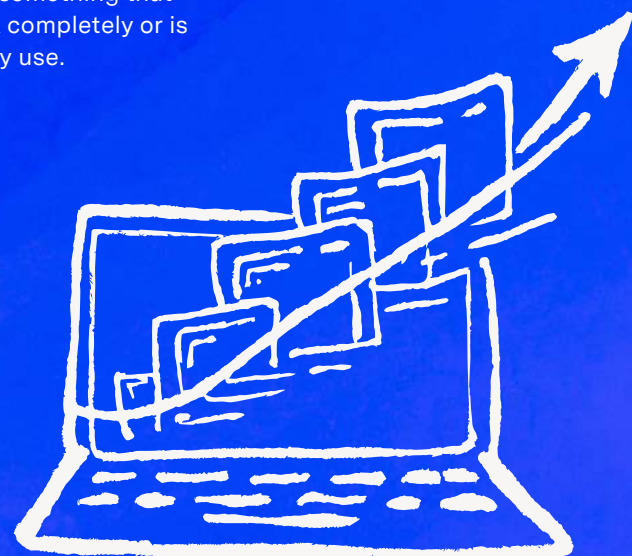
I have a lot of concerns about the consequences that AI could have for our society, so I'm not sure if I want it to get much more sophisticated than it currently is. But if you did want to make it genuinely useful to engineers and developers, you'd have to make quite a few changes. For one thing, you'd need a built-in runtime compiler, because right now 40% to 50% of the time you ask it to write code, it fails on compilation, so you can't even boot it up without tweaking it. You'd have to get it to the point where it was capable of more reliably spitting out operational code before it could be a useful part of most engineers' workflows.

**Q: As generative AI platforms approach that level of sophistication, what impacts do you think that will have on the nature of the software industry?**

Thinking about the software industry specifically, I'd give it another three to five years before it fundamentally changes because of AI. People who are in the industry already, like myself, probably won't notice any significant pressure on our job opportunities. But the people who are just getting out of college or just starting college and thinking about a career in this field, they're going to find it a lot harder to break in, because it's that entry-level type work that's going to be gobbled up by AI the fastest.

In many ways, I think technology has made us more disconnected from our communities. Think back to the 1930s or 40s; yes, there were all of these huge social problems, but at least people could understand those problems. At least you could come together with other people at the town hall and talk about them and how to move forward. These days, the internet is the new town hall, but nothing's getting solved there, is it? I think AI just pushes us even further in that direction.

Illustration generated using Adobe Firefly, with permission and style references provided by our illustrator Hannah Robinson, to demonstrate integration of AI-generated and human content.



# Increasingly, creative professionals are recognizing the need to upskill themselves to succeed in a post-AI world



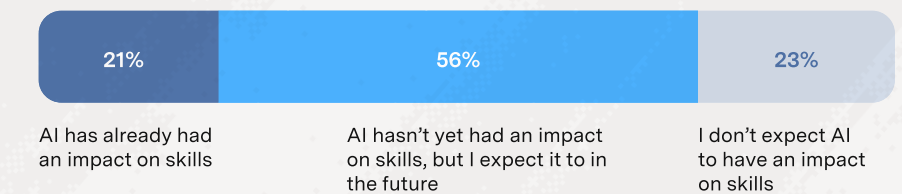
Beyond experimenting with generative AI tools and finding opportunities to incorporate them into their workflow, the AI boom has also forced many creative workers to step back and think more holistically about their skill profiles and the types of capabilities they will need to succeed in a world where artificial intelligence becomes an integral part of creative industries. **One in five creative class professionals say that AI has already impacted the skills required to build a career in their industry**, and another 56% think that it is likely to do so in the future.

There's a clear need, therefore, for accessible and reliable training materials to help creative workers equip themselves with those skills. While there are plenty of independent content creators out there creating YouTube tutorials or writing articles about generative AI applications, knowing how to find that content isn't always easy if you lack the relevant background knowledge: 38% of creative class professionals say they've struggled to find material on AI that's relevant to their industry. And previous NRG research has found that most corporate employers have yet to run dedicated training sessions on AI for their workers.<sup>25</sup>

25. "The Accountable AI Playbook," NRG, September 12th, 2023

**Q: Do you think that the growing popularity of AI applications will impact the skills required to succeed in your industry?**

*Creative class professionals*



Those who *do* know where to look for that sort of content can sometimes run into the opposite problem: with so much content about AI available online, it can be difficult to know what sources to trust and which to avoid. There's a clear need, therefore, for providers behind AI products to step into this leadership void and help create navigable training paths for creatives.

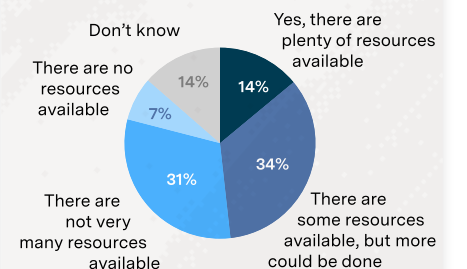
Some tech companies have already made moves in this direction. Google, for example, recently announced a €25 million investment to support open access AI training initiatives in Europe,<sup>26</sup> while Microsoft plans to enroll 2 million students in India onto the firm's AI training pathway by 2025.<sup>27</sup>

26. Solomon Klappholz, "With talent pipelines pushed to their limits, Google just launched an ambitious new AI training program in Europe," ITPro, February 12th, 2024

27. Efe Udin, "Microsoft Plans to Provide AI Skills To 2 Million Workers in India by 2025," GizChina, February 9th, 2024

**Q: Do you feel there are enough training materials available for professionals in your industry to adapt to the growth of generative AI applications?**

*Creative class professionals who expect their industry to be affected by generative AI*



To date, however, many of these headline-grabbing initiatives have focused on the development of technical machine learning skills for IT workers or those in adjacent industries. Moving forward, it will be important to bring workers in other creative fields into the conversation. In many cases, tech companies may find that those needs can best be addressed not through direct investment into the creation of new training material, but by the creation of community-focused initiatives and certification programs that help creatives navigate the content that already exists and decide which sources are most relevant.

**Q: What type of training do you think professionals in your industry will need to adapt to the rise of generative AI?**

Training on the ethical and responsible use of AI **51%**

Technical training on how AI and machine learning works **46%**

Training on creativity, problem-solving, and adaptability **46%**

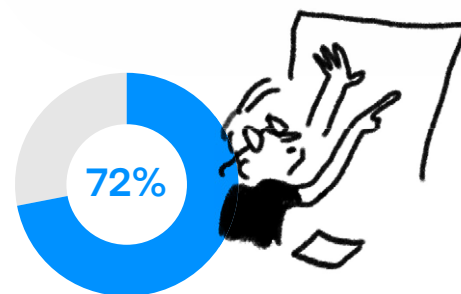
Training on using AI tools to collaborate with others **46%**

Training on intellectual property and copyright protection **41%**

**In particular, creative class professionals show a strong interest in training programs that deal with the ethical dimension of AI,** and focus on how to use the technology in a responsible and socially conscious way. Ethical concerns about the way that AI is used and developed have played a major role in driving a backlash against the technology within many creative communities.<sup>28</sup> While the average creative class professional doesn't see these as reasons to avoid the technology entirely, they are certainly aware of them—and want to ensure that their use of the technology won't come at the expense of their peers or the health of their industry.

Aside from creating a need for training that directly relates to the use and development of AI tools, there are also some less obvious ways in which the AI revolution is likely to impact the skill profiles required by creative fields. **As generative AI applications continue to lower the barriers to entry for creative activities, a sense of salesmanship is likely to become**

28. Taylor Hatmaker, "Artists across industries are strategizing together around AI concerns," TechCrunch, October 7th 2023

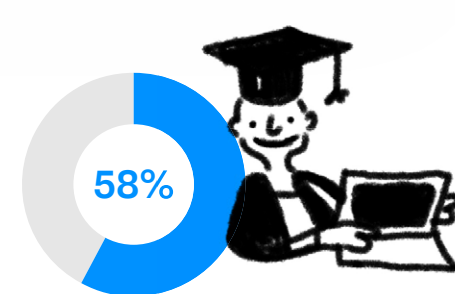


of creative class professionals believe that people in creative fields should be taking steps now to educate themselves about AI tools and how to use them effectively.

**increasingly important, especially for freelance creatives;** they will need the ability to justify their value add to clients for whom doing creative work themselves or using purely in-house resources has never been easier.

And as AI makes it easier for creatives to branch out and explore new mediums, many may find themselves looking to diversify their skill sets. Several of the creatives interviewed for this study noted that AI had created both an incentive and an opportunity for them to invest time in developing creative expertise beyond that traditionally required for their jobs; artists and designers using ChatGPT to help themselves develop basic coding skills, for example, or writers trying to incorporate more visual assets into their creative output.

Increasingly, therefore, it appears that **AI is pushing us towards a world where the boundaries between creative professions are more porous than ever:** one in which creatives are strongly incentivized to become "jacks of all trades" to meet the heightened expectations of clients and employers.



believe that learning about AI should be a standard part of college programs for creative fields.



*I've been thinking a lot recently about how to teach my students about AI. It reminds me a lot of when I was a kid and teachers would show us how to use Google; at a certain point, kids are just going to grow up so immersed in this stuff that it's second nature to them. But I could definitely see it being a useful tool in the classroom—using it as a sort of creative exercise, or creating art using AI and having students critique it.*

**RICHARD BRASSEALE**  
Musician, composer, and educator

*Part of being a creative is the ability to move with the times and adapt your skillset. When I was starting out in this industry, I spent a lot of time learning how to focus a camera. But I haven't used that skill in a long time, because the autofocus does it all for you these days. It's the same with AI; maybe it makes some skills less relevant than they used to be, but it frees up your time to focus on other things.*

**STEVE WASKOW**  
Videographer

*To an extent, I think that AI blurs the line between different creative fields; suddenly, you can be a comedian but you can also do your own artwork, your own editing, your own graphic design, etc. So that makes it more valuable, as a creative, to develop skills outside your core area of expertise. Personally, I've been trying to teach myself how to do video editing and audio editing with some of the new tools that have become available, so I can give myself the flexibility to take on a broader range of freelance projects.*

**JACK JENKINS**  
Presenter, compere, and comedy performer



## Industry spotlight: Music

**RICHARD BRASSEALE**  
Musician, composer, and educator

**Q: How have you personally used AI in your work as a composer?**

For me, I've found that AI can be a useful tool for inspiration and for some of the technical aspects of my work as a composer, but less useful for actually generating creative output itself. For example, if I'm trying to evoke a specific mood with a piece, I might ask ChatGPT to help me come up with a list of different genres that I could play around with and try combining in different ways. In the same way that a mathematician might use a calculator, I see AI as, fundamentally, a tool that has to be used in the right way to get value out of it.

Recently, I was composing music for a pharmaceutical conference where AI was one of the big themes of the event, and they'd asked me to use ChatGPT to write lyrics for songs based on people's bios. It didn't do a particularly good job, and I think that's because it lacks the kind of genuine understanding that a human writer would have; it's just recombining stuff that it's been trained on, it doesn't really understand human speech patterns, rhyme schemes, any of that sort of stuff.

Illustration above generated using Adobe Firefly, with permission and style references provided by our illustrator Hannah Robinson, to demonstrate integration of AI-generated and human content.

**Q: Given those experiences, what role has AI now settled into within your workflow?**

I probably use AI more for admin and bookkeeping tasks than I do in the creative process itself. There are a lot of administrative things I have to do as a musician and as an educator—things like writing career statements or grant proposals, or figuring out talking points for a meeting—where AI has helped me save a lot of time.

I know some creatives have started to center their entire workflow around AI, but I don't want to go down that route. If I did that, I'd be worried that my work would become too derivative of other people's and less about my own intentions and goals as an artist. Instead, I see myself using it mostly as a research tool—something to use as one of many different sources of inspiration when I'm working on a new piece.

**Q: Have you seen any examples of musicians using AI in particularly innovative ways?**

I don't think I've been truly convinced by any artist who uses AI as their primary creative tool—or at least, none that have admitted to doing so. I've seen things that are like, "we trained an AI on Mozart's scores and asked it to write a new composition in his style." And that sort of thing is promising, but it's not particularly original or interesting. Most of the artists I've seen who have been using AI successfully have been treating it more as a collaboration partner or a source of inspiration.

# 02



## THE FUTURE UNFOLDS

# What impact will generative AI have on creative industries and professions?

### IN THIS SECTION, YOU'LL FIND...

- The effects, both positive and negative, that creative professionals expect generative AI to have on their industries
- The types of creatives most likely to benefit and lose out from the rise of generative AI
- The implications of the AI “misinformation crisis” for creative professions
- The scale of the intellectual property challenges facing creative industries
- The potential for generative AI to fundamentally reshape our understanding of creativity and the role it plays within our culture

# Most creatives are cautiously optimistic about the long-term impacts of AI on their industries

Within the creative class, there are some deep divides when it comes to the long-term impact that AI is likely to have on their industries and professions. To some, the technology represents an existential threat: a sinister plot by amoral tech executives to tear out the heart and soul of the creative economy, a challenge to the very notion of artistic expression as we know it.<sup>29</sup> To others, it's a powerful tool to be embraced and celebrated—and perhaps even a force for the democratization of creative sectors.<sup>30</sup>

Few creatives, however, dispute that the impact of the technology will be noticeable. **Seventy-three percent of creative class professionals believe that AI will have at least a moderate impact on their industry**, with 49% predicting the impact will be either significant or completely transformative.

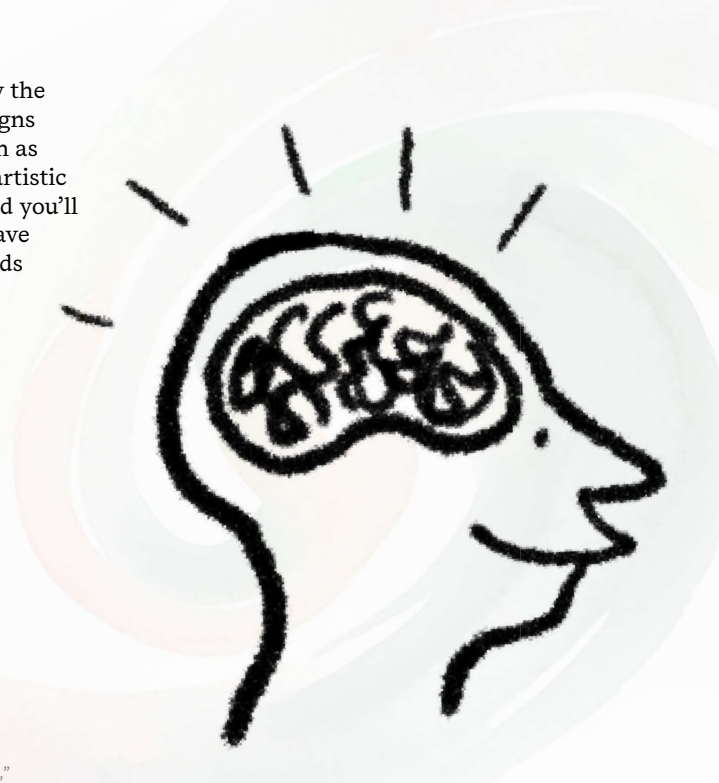
For the most part, members of the creative class are cautiously optimistic. Forty-three percent of creative class professionals believe that generative AI will have a net positive impact on people working in their industry; significantly higher than the 30% who see it as a net negative.

Despite this overall picture, however, creatives with the most intensely negative feelings towards AI actually outnumber those who feel most optimistic about the technology. This may reflect the fact that, right now, **the “anti-AI” movement within many creative industries is more organized and energetic than their opponents on the other side of the debate—**

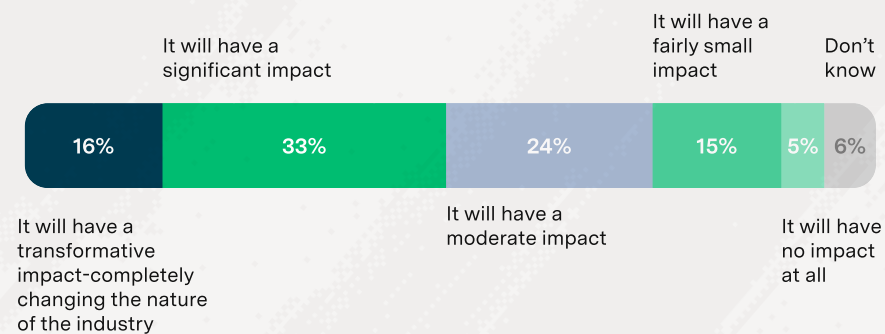
as demonstrated, for example, by the popularity of “No To AI” campaigns on online creative platforms such as ArtStation.<sup>31</sup> Spend any time in artistic communities on social media, and you'll quickly find campaigners who have emerged as prominent figureheads of the anti-AI movement within their respective mediums.

The picture that emerges from all of this is of a creative economy in which the majority of workers are either cautiously optimistic or ambivalent about the long-term effects of generative AI, but flecked through with a countercurrent of strongly anti-AI sentiment.

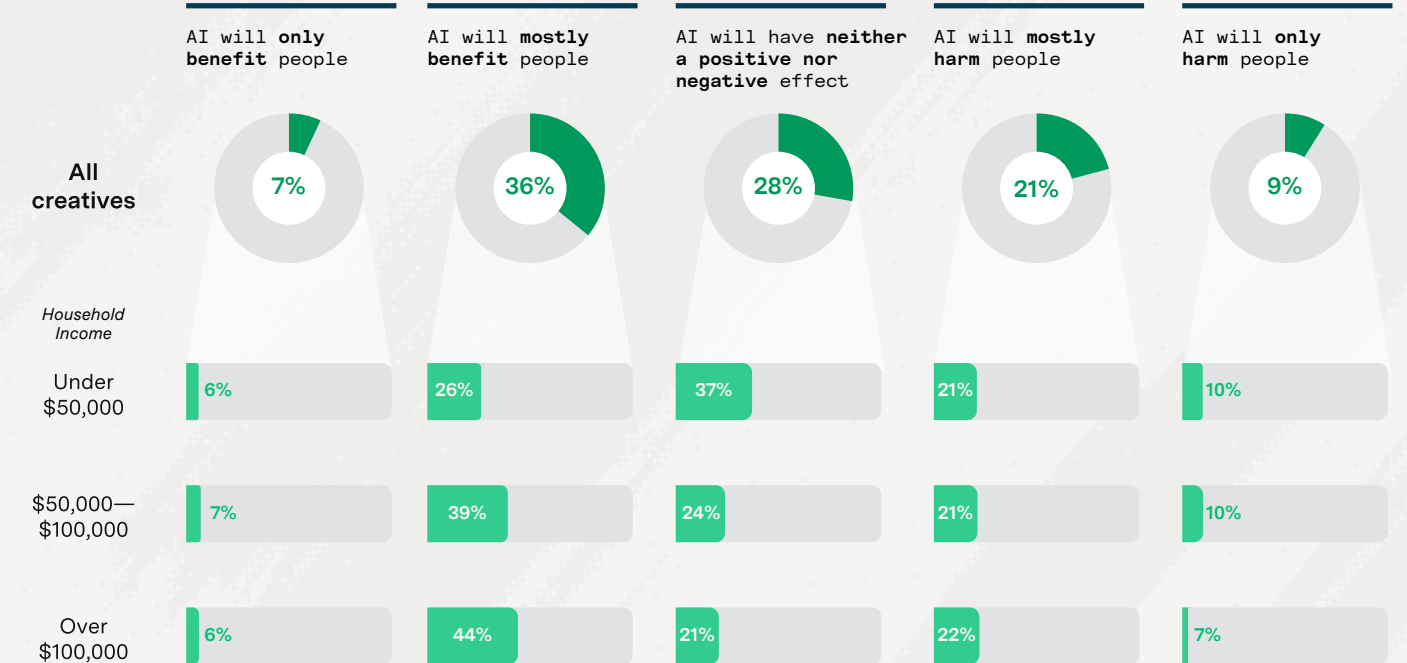
29. James Bridle, “The Stupidity of AI,” *The Guardian*, March 16th, 2023  
 30. Andrea Zarczynsky, “How AI-Driven Deal Making is Democratizing Music,” *Forbes*, December 31st, 2023  
 31. Benj Edwards, “Artists stage mass protest against AI-generated artwork on ArtStation,” *Ars Technica*, December 15th, 2022



**Q: How significant of an impact do you expect AI to have on your industry?**



**Q: Overall, what impact do you expect generative AI to have on people working in your industry?**



*In a lot of organizations, I think you're starting to see an emerging generational gap when it comes to generative AI. Personally, as a millennial, I see a lot of red flags with this technology—and I know many of my peers feel the same way. We're the generation that grew up during the social media boom, with all of the negative consequences that came with that, so I feel a lot of us are very cynical about technology in general, and acutely aware of the potential human consequences. And most of us know that we're going to move around a lot over the course of our career, so that forces you to think about how AI could limit potential job opportunities in the future. On the other hand, a lot of leaders within creative industries—people who are older, maybe 10 years or so away from retirement—are much more enthusiastic about generative AI, and are pushing their companies to embrace it wholeheartedly.*

**LINSI SPIES**  
Creative project manager

*Generative AI is a powerful tool, but it has the most potential when used by professionals with established storytelling expertise. Writers and other creatives are going to be best positioned to interpret and utilize AI-generated content effectively, given their deep understanding of the story and the sensibilities they've developed over their careers. Because of this, I think that human creatives will continue to play a vital role in the filmmaking process well into the future.*

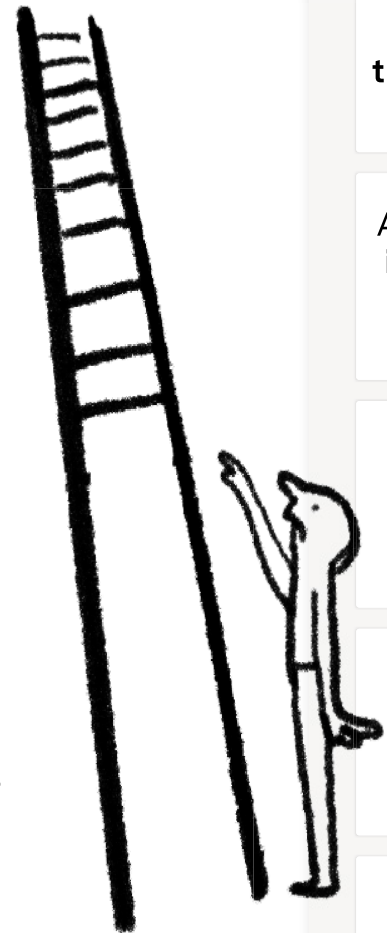
**MICHAEL MALAGON**  
Filmmaker and screenwriter

# Many anticipate a “rich get richer” effect within the creative economy

Even for those who see generative AI as a net benefit for people working in creative sectors, there’s still the question of how, exactly, those benefits are going to be distributed; who within those industries is going to win and lose out from the AI revolution. And it’s in answering this question that we can start to get a sense of the more foundational impacts that the technology is likely to have on the contours of America’s creative class.

The emerging consensus among creative professionals appears to be that **generative AI will enrich and improve the lives of those already well-established in their careers, at the expense of younger creatives in more junior positions and those looking to break into these industries for the first time.**

Workers in the mid to late stages of their careers, the thinking goes, will find that their day-to-day lives are made significantly easier by the influx of generative AI applications, and that these tools allow them to reach new heights of productivity. That increased level of productivity, however, will lead to a reduced total demand for creative labor. Job openings in creative industries are therefore going to become noticeably harder to find, which will create a major impediment for those still climbing the professional ladder and looking to move to the next stage of their career. New graduates will be particularly impacted by this shift, given that entry-level creative positions are likely to be the first to be fully replaced by generative AI.



*A lot of people are worried about the impact of AI on jobs in creative fields, but I think some of those concerns have been overstated. Yes, AI is going to lead to an increase in productivity, but demand for content has also been increasing recently, and I expect it to continue doing so. As long as demand can keep pace with productivity, there will still be plenty of opportunities for creative professionals.*

**MICHAEL MALAGON**  
Filmmaker and screenwriter

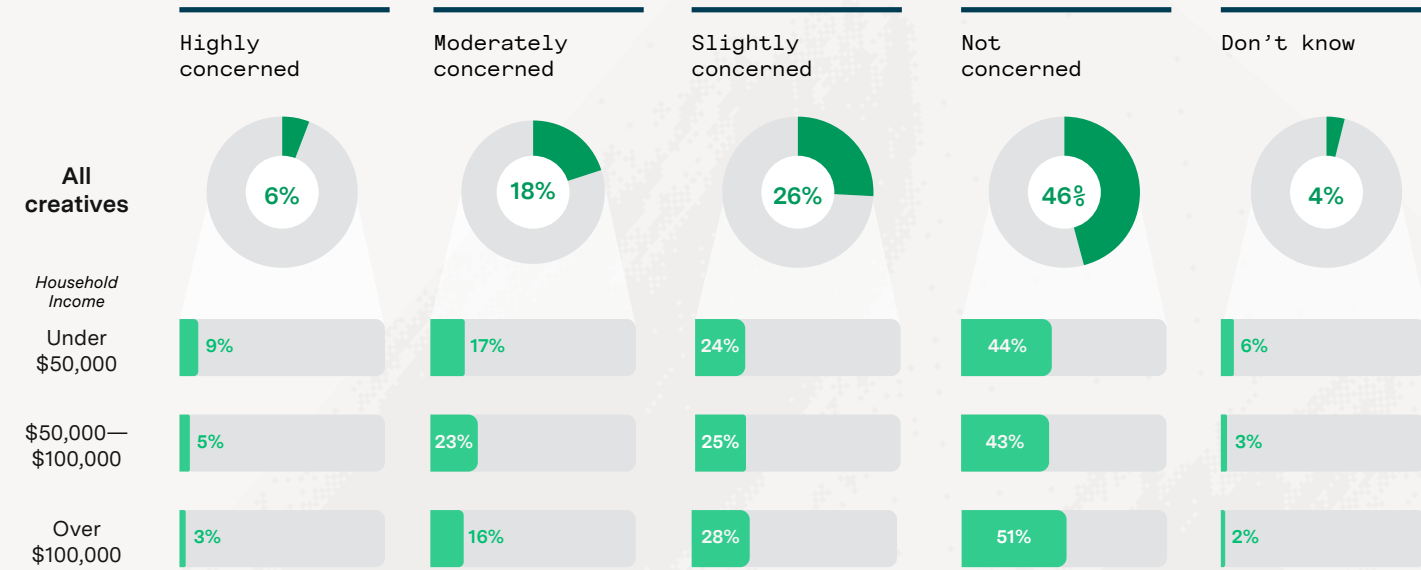
*There’s definitely a problem right now with people seeing AI as just an excuse not to hire human artists. But I think that, with time, people are going to come to better understand the limitations of the technology. Maybe you used AI to create a picture of a saxophone for your billboard, but there aren’t any keys on it, there’s no reed—all these little mistakes that a human artist would have spotted. And that kind of thing, ultimately, reflects badly on the company.*

**RICHARD BRASSEALE**  
Musician, composer, and educator

Q: What impact do you expect AI to have on your industry?



**Q: How worried are you that AI could replace your job in the future?**



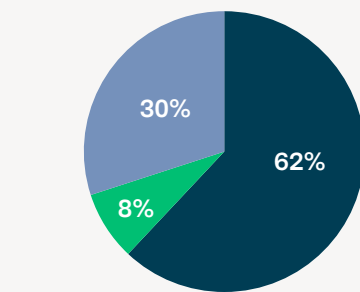
In other words, there's a strong fear among creatives that **generative AI will lead to a "rich get richer" effect—concentrating power and wealth within creative industries in the hands of those who already have the most of it.**

This is a major reason why overall attitudes towards AI among creative class professionals correlate strongly with household income. Fifty-one percent of creatives earning \$100,000 or more believe that AI will have a net positive effect on people working in their industry, compared to just 32% of those earning \$50,000 or less. Moreover, creatives in the lowest income brackets are three times as likely as higher-earners to say that they're "highly concerned" about their own job being made obsolete by an AI.

There's also a sense among the creative class that whatever quality of life benefits the average creative worker receives from the growth of AI tools are likely to pale in comparison next to the financial benefits to be incurred by the corporations that employ them. Sixty-two percent of creative class professionals believe that generative AI tools will benefit large corporations more than individual artists and creatives, while only 8% expect the opposite to occur.

For the tech companies bringing AI tools to market, this fear needs to be top-of-mind right now. If current trends continue, there's a danger that creatives begin to see the interests of these companies as squarely opposed to those of "the little guy." Marketing for generative AI applications, therefore, ought to convey a deep understanding of the needs and priorities of individual end users, not just an alignment with the goals of corporate clients.

**Q: Who do you expect to benefit the most from generative AI tools?**



- Large corporations
- Individual artists and creatives
- Both will benefit equally

Aside from new graduates, it's **freelancers and self-employed creatives who may have the most to lose from the concentration of power brought about by generative AI.** As these tools become increasingly powerful and accessible, more and more clients—especially those at the lower end of the market—are going to decide that it makes more sense to do their creative work in-house. And individual buyers who might once have commissioned creative work for themselves or as gifts for loved ones will now have the option of getting a similar product for a fraction of the price. Even if the quality of AI-generated work is noticeably worse, the scale of the cost differential will more than make up for it in the eyes of many prospective buyers.

At the same time as it exerts a downward pressure on demand, AI is also likely to expand the supply for freelance creative work. This is a story we've seen play out many times before in creative industries. The growing popularity of digital cameras in the 1990s and early 2000s, for example, significantly lowered the barrier to entry for commercial photography. Once it was possible to take high-quality photos cheaply and without access to a professional lab, established freelancers found themselves having to compete for work against part-time hobbyists and art students looking to earn some extra money on the weekends. Similarly, as AI lowers the barrier to entry for creative fields, freelancers may find themselves operating in an increasingly crowded marketplace.<sup>32</sup>

32. Decrypt AI, edited by Liam Kelly, "Studies Show That AI Is Indeed Coming for Freelancers' Jobs," Decrypt, November 10th, 2023



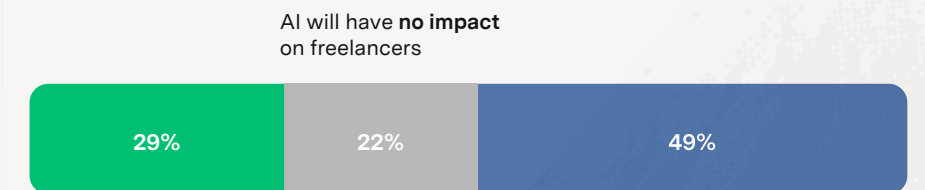
*Even before the arrival of all these new AI tools, managing client expectations was difficult in the world of freelance photography. There's a stereotype that clients all think we just press a "beautify" button in Photoshop and then sit back and twiddle our thumbs for a week and charge them a gazillion dollars. So now that AI is going to make it easier for people on the client-side to do photo-editing themselves, there's a lot of pressure on photographers to show that you really know the tools and know how to use them in a way that goes above and beyond what they could achieve on their own.*

**ROBERT HARDIN**  
Photographer

*Yes, there will probably be some clients who think that they can just use AI to take care of all their creative work themselves instead of paying real humans. But what matters is the efficiency: yes, anyone can put a nail into the wall if they have their own hammer, but you hire a carpenter because he can do 100 of them in the time it takes you to do one. So creatives just need to make sure that they know how to use these tools better than other people, and need to have the communication skills to communicate that value-add to their customers.*

**STEVE WASKOW**  
Videographer

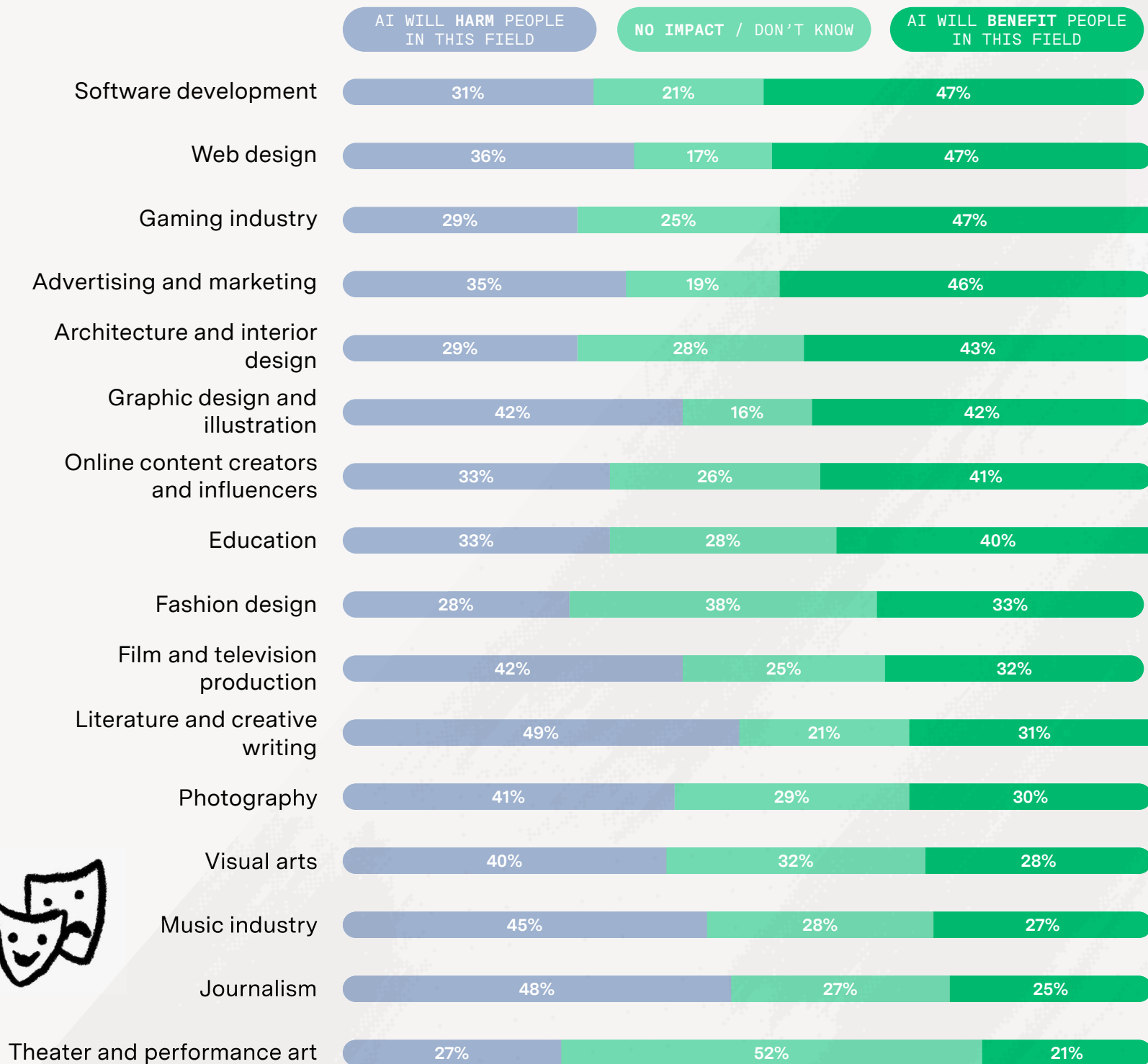
**Q: What impact do you think AI will have on job opportunities for freelancers in creative fields?**



AI will lead to **more opportunities** for freelancers

AI will lead to **fewer opportunities** for freelancers

Q: How do you expect the rise of generative AI to impact creatives in different fields?



Ultimately, this speaks to the central paradox at the heart of AI: that it can be, simultaneously, a way of democratizing creativity and yet also serve to centralize power within creative industries. On the one hand, AI makes it easier than ever before to engage in the act of creation itself—allowing people to write books, compose music, or create artwork regardless of their level of experience or professional training. But by doing so, it also makes it substantially harder to build a sustainable career as a creative and earn a fair living from your creative output—as entry-level positions become rarer and freelancers find themselves competing against an expanding pool of providers for a dwindling number of commissions.

What's worse, many of the industries where the negative effects of AI are likely to be most pronounced are also the ones that have already gone through the most upheaval as a result of the pre-existing technology and cultural trends of the 21st century.

33. "Authors Guild Issues Report Exploring the Factors Leading to the Decline of the Writing Profession," The Authors Guild, February 19th, 2020  
 34. Jim Milliot, "Writing Books Remains a Tough Way to Make a Living," Publishers Weekly, September 29th, 2023  
 35. Scott Rosenberg, "AI-generated books are infiltrating online bookstores," Axios, August 16th, 2023

Journalism and creative writing, for example, are two of the fields where creative class professionals expect generative AI to have the most pronounced negative impact on existing workers. Already, the decline of traditional publishing outlets and the rise of digital media has made it harder than ever to turn a love of writing into a career: over the course of the 2010s, incomes for professional writers dropped by 24%,<sup>33</sup> with the result that, as of 2023, half of all full-time authors earn less than the federal minimum wage.<sup>34</sup> Eking out a career as a professional writer was hard enough already; now that authors have to compete against AI-generated books flooding online retailers, the situation looks more dire than ever.<sup>35</sup>

Here we can see another potential long-term impact of AI on the creative economy: a transfer of power and wealth away from fields where creatives are most likely to find themselves in direct competition with AI-generated content—such as literature, music, photography, and the visual arts—in the direction of industries with higher technical barriers to entry, such as web design, software development, and video game design.



*There's always going to be room for the kind of high art you see in museums; I don't think AI is going to put those kinds of artists out of work. It's at the more commercial end of the spectrum where things become more complicated. Because there are a lot of use cases where people are just looking for something cheap and quick, they don't care as much about the quality—like if you're making a YouTube video and you just need some music to play in the background. Those are the kinds of cases where people might start using an AI instead of going to a human creative.*

**RICHARD BRASSEALE**  
 Musician, composer, and educator

*There's definitely a possibility that AI leads to us becoming lazier, and that we start relying on machines to do too much of our thinking for us. But I'm not too worried about that because I think that, ultimately, creativity is a passion for so many people. People go into the arts because they love doing it, not because it's a good way to make money. And even if AI becomes a more central part of the creative process, you'll still need people who have an eye for what works and what doesn't; you'll still need people who have the creativity to use these kinds of tools in interesting and original ways.*

**JACK JENKINS**  
 Presenter, compere, and comedy performer



# AI-fuelled misinformation will create new cultural norms within creative industries around content authentication

Previous NRG research has documented the various concerns and anxieties consumers have about the potential negative social consequences of artificial intelligence—from the possibility of a rogue AI turning against its creators to the fear that the technology could fall into the wrong hands and be exploited by criminals, terrorists, and other bad actors.<sup>36</sup>

For creative class professionals, however, the most common AI-related fear is that the technology could lead to a flood of online misinformation—in the process, eroding public trust in digital media and pushing our ability to separate fact from fiction to its limits.

**56%** of creatives say that they're worried that AI will make online misinformation more dangerous than it already is.

The upcoming Presidential election has thrown this fear into stark relief. Federal government officials have expressed deep concern that AI-generated images and video clips could be used to incite violence in the lead-up to polling day,<sup>37</sup> and there have already been cases of AI being used to deceive voters through robocalls imitating the voices of specific politicians.<sup>38</sup>

Public concerns about AI-powered misinformation speak to a broader challenge around the verification of human-created content in a world where AI-generated works are increasingly hard to distinguish from the “authentic” article. Early AI image generators frequently featured telltale signs that betrayed the origins of their outputs—extra fingers, distorted faces, and so on—but the prevalence of these artifacts has decreased dramatically over time as the technology has improved.<sup>39</sup> With OpenAI recently unveiling its new video generator, it seems that AI videos are likely to follow a similar trajectory to still images.<sup>40</sup>

Even those who work in creative fields now struggle to separate AI and human-generated content. Only 1 in 20 creative class professionals feel that they can always tell when a piece of content has been created by AI. And a recent academic study found that, to most people, AI-generated images of human faces actually look *more* real than authentic photographs.<sup>41</sup>



**Q: What concerns, if any, do you have about the negative social consequences of AI?**

AI will make online misinformation more dangerous **56%**

AI will make it harder for people to protect their privacy and personal data **50%**

AI will make it harder for creatives to protect their intellectual property **49%**

AI will be used by criminals, terrorists, or other bad actors **47%**

AI will be used to create sexually explicit or otherwise exploitative images of people **45%**

Overreliance on AI will lead to an erosion of creativity and originality **45%**

AI will lead to mass unemployment in certain industries **44%**

AI will be used in warfare **41%**

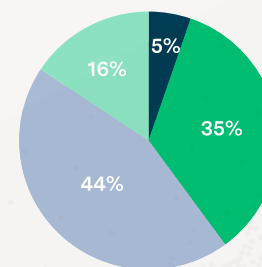
AI will be used to interfere with democratic elections **39%**

Overreliance on AI will make us lonelier and more isolated from other humans **37%**

Consequently, creatives across a variety of fields are now grappling with the question of how to verify the authenticity of their work. So far, technological solutions to this challenge have generally proved ineffective, at best. While there are plenty of products on the market that claim to be able to detect AI-generated content, their success rate is generally poor;<sup>42</sup> OpenAI discontinued its own AI detection program after just six months due to the high rate of false positives.<sup>43</sup>

Given these limitations, it's likely that **the solution to the challenge of verifying human-generated content will need to be as much a cultural one as a technological one.** Within creative industries, we should expect to see a strong push for the creation of new norms that govern the disclosure of content created by AIs; already, three-quarters of creative class professionals believe that creators who release work for

**Q: When looking at content online, can you generally tell when a piece of content has been created using generative AI?**



- I can always tell
- I can tell most of the time
- I can sometimes tell
- I can never tell

public consumption should clearly disclose their use of any generative AI tools.

In some cases, these norms may eventually be codified through guidance issued by labor unions or professional certification bodies. During the recent WGA strike, for example, the use of AI was a key issue of contention between writers and studios—with the result that there are now clear guidelines in place for the acceptable use of AI on unionized Hollywood productions, and penalties that can be enforced should these guidelines be violated.<sup>44</sup>

These solutions aren't perfect, of course, but they at least represent a step in the right direction for professional creatives—and a gesture towards the kind of cultural change that may be necessary to mitigate the most harmful effects of a looming AI-misinformation crisis.



*AI-generated photos are a big issue for news organizations; I know there have already been cases where fake photos from the Israel-Hamas conflict made it to wire services before people realized they were AI-generated. As these AI fakes become more sophisticated, it's going to be more important than ever for human photojournalists to play the role of trusted observer—someone who can build up enough credibility that they can assure people of the provenance of the photos they took.*

**ROBERT HARDIN**  
Photographer

36. "The Accountable AI Playbook," NRG, September 12th, 2023  
 37. Gordon Corera and Brian Wheeler, "AI could 'supercharge' election disinformation, US tells the BBC," BBC News, February 15th, 2024  
 38. Miles Parks, "What a robocall of Biden's AI-generated voice could mean for the 2024 election," NPR, February 7th, 2024  
 39. Gerrit De Vynck, "AI images are getting harder to spot, Google thinks it has a solution," The Washington Post, August 29th, 2023  
 40. Cade Metz, "OpenAI Unveils A.I. That Instantly Generates Eye-Popping Videos," The New York Times, February 15th, 2024  
 41. "AI faces look more real than actual human faces," UCL News, November 14th, 2023

**76%** of creative class professionals believe artists and other creatives should always clearly disclose when they have used AI to help them create content.



*Generative AI has become so commonplace now that it's impossible to tell whether anything you see online is real or not. As a photographer myself, that kills me; the thought that you could spend all this effort creating these beautiful images and putting them out into the world, and then someone says that it's all fake and you can't do anything to prove them wrong. I saw recently that the new Leica M11-P camera has a built-in verification system to prove that photos were taken by a human—it's sad to think that we're at a point where that's necessary now.*

**LINSI SPIES**  
Creative project manager

42. Geoffrey A. Fowler, "Detecting AI may be impossible. That's a big problem for teachers," The Washington Post, June 2nd, 2023  
 43. Benj Edwards, "OpenAI discontinues its AI writing detector due to 'low rate of accuracy,'" Ars Technica, July 26th, 2023  
 44. Stephen M. Colbert, "Hollywood's New AI Rules: Here's What Studios Can & Can't Do," ScreenRant, September 30th, 2023



# Intellectual property concerns look set to be a major source of tension between AI developers and creatives

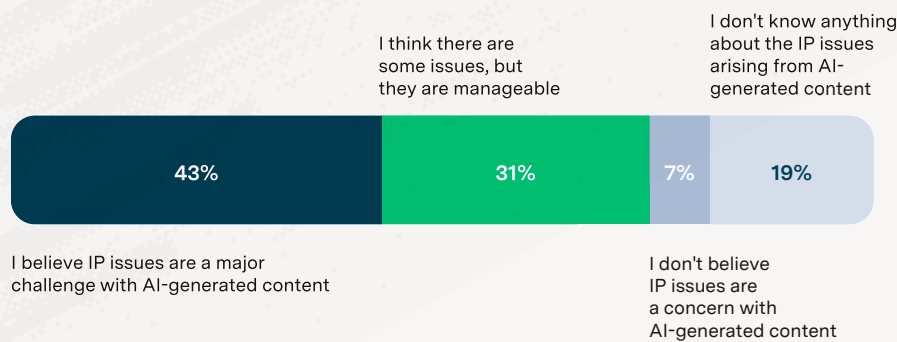
To date, issues surrounding the intellectual property implications of AI have proven to be some of the biggest sources of controversy regarding the technology's application to creative industries—and have been one of the major factors serving to fuel the anti-AI backlash that has taken hold among some creator communities.<sup>45</sup>

First, there's the question of who actually owns the copyright for works that people have created with the assistance of AI: the prompter, the AI developer, or neither of them? In the US, courts have ruled that it's impossible to claim copyright for AI-generated works,<sup>46</sup> but that's a ruling that seems to have created more questions than it answers. How much use can an artist make of AI editing tools and filters before it renders their work

unable to be protected? And, conversely: how much time would you have to spend manually editing or adding to an AI-generated piece of work to have a viable copyright claim?

Then there's the issue of how AI models are developed and trained. Current machine learning approaches require the ingestion of large volumes of pre-existing content; in the eyes of many creatives, this itself constitutes a form of intellectual property infringement, as it represents a use of material in a way never intended or consented to by its original authors. Again, the legal footing here for AI developers is far from clear—although ongoing lawsuits, including one filed by The New York Times against OpenAI and Microsoft in December, may eventually provide a partial resolution.<sup>47</sup>

**Q: How concerned are you about the intellectual property issues arising from the use of AI-generated content?**



*While it's true that AI creates some complicated legal questions, these are all things we've dealt with before. Look at sampling, for example; any musician who works with samples knows there are lots of factors you have to take into account in figuring out what you can use and how long it can be. And people had to figure out the difference between just stealing something and using it in a transformative way. So, I think we're just going to have to go through a similar process with AI-generated work.*

**RICHARD BRASSEALE**  
Musician, composer, and educator

*The whole copyright issue with AI is so murky right now, it's difficult to see any type of actually stable solution for creators. You have all these systems that are out there in the hands of the public, but they only work because they ingested all of this content whose creators never intended for it to be used that way. At the very least, I think that the rise of generative AI is going to make creatives a lot more cognizant of what platforms they're using to promote and showcase their work.*

**REM WRANSKY**  
Research engineer

45. Dani Di Placido, "The Problem with AI-Generated Art, Explained," *Forbes*, December 30th, 2023  
46. Wes Davis, "AI-generated art cannot be copyrighted, rules a US federal judge," *The Verge*, August 19th, 2023  
47. Michael M. Grynbaum and Ryan Mac, "The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work," *The New York Times*, December 27th, 2023

**Q: Do you believe there is a need for new regulations and laws to address questions about the intellectual property rights for work created using AI?**

- Yes, there's an urgent need for new laws addressing these issues
- There will be a need for new laws at some point, but it's not an urgent one
- There is no need for any new laws in this space
- Don't know



**80%** of creative class professionals believe that artists deserve some form of financial compensation when their work is used to train AI.

**82%** agree that AI companies should fully disclose the sources of their training data for AI models.

**83%** think that websites that host user-generated content should create a clear process for users to "opt out" of having their work used to train AI.

Given the murkiness of existing intellectual property frameworks for AI-generated content and the development of AI models, it's no wonder that the vast majority (85%) of creative class professionals believe that there is already or will eventually be a need for dedicated legislation.

Reaching an equitable settlement between the different parties involved, however, will be complicated by the fact that **most creatives have deep reservations about their own work being used to train AI**. Forty percent of creative professionals say that they would not want tech companies to train models on their work under any circumstances, while an additional 35% would want those companies to seek their explicit consent before doing so. Four-fifths, meanwhile, think that AI companies have an obligation to financially compensate artists whose work has been used in the training of their models.

We should expect, therefore, to see an organized push within the creative economy over the coming months and years to put an end to the current "Wild West" period of AI development, and implement frameworks that ensure credit and compensation for artists and other creators whose work has been used to train AI models.

Already, we're starting to see a move in this direction. Adobe and Canva, for example, have launched schemes to provide compensation to creators

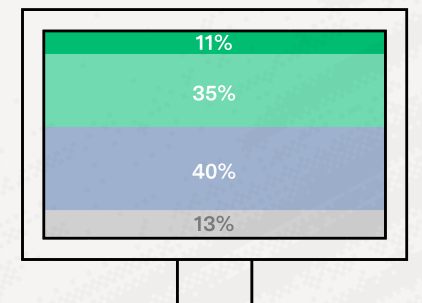
whenever their work is used to train AI.<sup>48</sup> ArtStation, for its part, has implemented a tagging system that allows creators who upload to its platform to explicitly opt out of allowing developers to scrape their content for training purposes.<sup>49</sup>

These solutions may well succeed in helping individual platforms avoid alienating their users, but it's far from clear how this approach could be scaled up to cover the kind of multi-purpose models developed by the likes of OpenAI or Google that require hundreds of billions of words of training data drawn from countless different sources.<sup>50</sup> So, if the courts or Congress do eventually decide that creators deserve more of a say in how their work is used by AI developers, we may well see a reorientation of the AI landscape towards smaller-scale models more closely connected to specific content platforms.

In this respect, developments on the other side of the Atlantic may provide a preview of things to come for the United States. In March 2024, lawmakers in the European Union approved the world's first comprehensive AI legislation—including, among many other requirements, a clear mandate for developers of general purpose AI systems to disclose the sources of their training data and to comply with existing EU copyright law.<sup>51</sup> With GDPR, we've already seen how requirements set by the EU can become de facto worldwide standards for the tech sector, and it seems as if AI may be rapidly heading down the same trajectory.

**Q: If you had released content publicly on the internet, would you feel comfortable with AI developers using your work to train their models?**

- I would be happy for companies to train their AI using my content
- I would be happy for companies to train their AI using my content, but only if they sought my explicit consent first
- I would not be happy for companies to train their AI using my content
- Don't know



48. Michelle Cheng, "How should creators be compensated for their work training AI models?," *Quartz*, October 20th, 2023  
49. Ted Litchfield, "ArtStation will allow artists to opt out of AI programs using their creations, but concerns remain," *PC Gamer*, December 17th, 2023

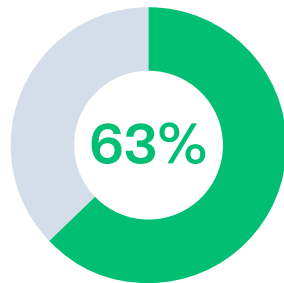
50. Sue Halpern, "What We Still Don't Know About How AI Is Trained," *The New Yorker*, March 28th, 2023  
51. Shiona McCallum, Liv McMahon, and Tom Singleton, "MEPs approve world's first comprehensive AI law," *BBC News*, March 14th, 2024

# Ultimately, the continued improvement of AI models raises deep questions about the nature and limits of creativity itself

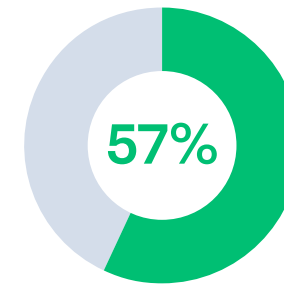
Beyond its tangible impact on creative industries and the lives of creative professionals, generative AI also holds the potential to have a more profound social impact; to bring about a fundamental rethinking of what creativity means and what it is to be a creative.

**Increasingly, people are beginning to let go of the idea that creativity is a uniquely human attribute.** Eighteen percent of creative class professionals believe that there are already AIs that could fairly be described as creative—and an additional 32% think that a truly creative AI could exist at some point in the future. If AIs are capable of genuine creativity, that throws up a whole host of philosophical questions about the concept itself, and forces us to think deeply about the role of creativity within our culture and the value that we place on it.

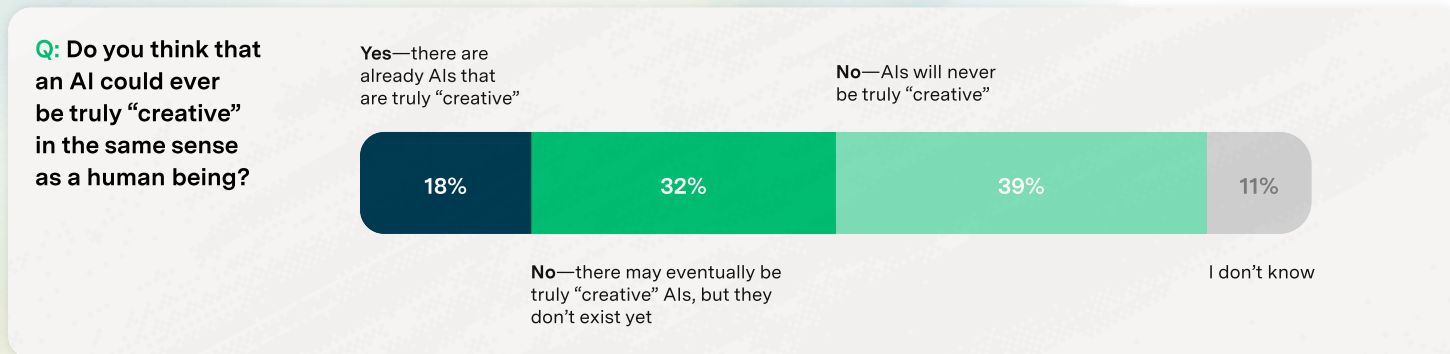
To some, the growing creative power of AI represents more of a threat than an opportunity. Will humans have any motivation to engage in creative pursuits when their work can be so easily replicated by machines? Will artistic expression lose its value in a world flooded with AI-generated content? Will creativity become commodified and commercialized even more than it is today?



of creatives think that AI will force us to rethink what it means to be “creative.”



think that the integration of AI into creative fields will lead to entirely new forms of art and expression.



A more optimistic framing, however, sees the AI revolution as simply the latest step in a millennia-long process through which artistic expression has been reshaped and redefined by technological progress. At the time, the invention of photography was seen as an existential threat to traditional forms of visual art—and photographers were derided by the art community as little more than glorified button-pushers.<sup>52</sup> But in the end, artists were able to adapt to the pressure of that new technology through the invention of new genres and the embrace of non-representative forms that couldn’t be replicated by cameras—while photography emerged as its own legitimate form of artistic expression alongside those older mediums.

So too, one could argue, will it go with AI. Existing artforms can remain relevant if their practitioners are willing to adapt to this new reality and push their mediums in new directions—and can coexist alongside the new forms of artistic expression created by AI. Some critics have already begun labeling these new forms, coining terms such as “promptography” or “synthography” to describe the burgeoning movement of artists who make generative AI a core part of their creative process.<sup>53</sup> It’s possible, even, that human artistry and craftsmanship will be accorded more of a premium in a world in which they exist alongside and in contrast to artificial forms of creative expression.

52. Lois Rosson, “What Is AI Doing To Art?” Noema, April 11th, 2023  
 53. Benj Edwards, “Artists astound with AI-generated film stills from a parallel universe,” Ars Technica, April 7th, 2023



*Personally, I think the biggest risk of AI is that it leads to an extinction of willingness. From the industrial revolution through to the information age, there’s this sense of hopelessness that a lot of people have been incrementally experiencing; a feeling that we’ve lost a sense of what it means to be human, we’ve lost our connection to the planet. And AI feels like another step along that journey. Once it gets to the point where it can improve itself and gallop away from us in terms of intelligence, I feel like so many people—young people, especially—are going to look at that and say, “Well, what’s the point of learning anything anymore?”*

**REM WRANSKY**  
 Research engineer

*I see the conversation about AI-generated art as part of a broader evolution, over the past 100 years, in how we think about art and the means of its production. You can go back to Susan Sontag, who discussed how by taking photos of art, you create a new piece of art in itself, because the unique perception and photograph of the physical object changed what the subject of the piece is about. Or you can look at Marcel Duchamp with his ready-mades—and the idea that the act of selection can be enough to create art. We get so wrapped up in the idea that art is production, that it’s not real art if you’re not physically creating it with your own hands. But the art world moved on from that view a long time ago.*

**RICHARD BRASSEALE**  
 Musician, composer, and educator



PREDICTIONS

Forecasting the future of the creative class

- 1 The boundaries between creative professions will become increasingly porous, as workers use AI to extend their capabilities beyond their core skill sets.
- 2 Mid- and late-career creatives will benefit at the expense of their more junior counterparts, as entry level positions in creative industries become harder to find.
- 3 Freelance creatives will face significant downward pressure on their rates, forcing them to develop enhanced salesmanship skills to better justify their unique value add.
- 4 Creative workers, especially those in highly unionized industries, will push aggressively for a framework that properly compensates and acknowledges the contributions of artists whose work is used to train AI.
- 5 Expectations for productivity in creative industries will rise, forcing even many of those who are currently uninterested in or actively hostile towards AI to begin making use of the technology.

# AI represents a major challenge for creative industries—but not an intractable one

It's difficult to say with certainty what lasting legacy generative AI will leave on creative industries—in part, because the technology is so rife with contradictions. It offers to make life easier for individual creatives while simultaneously funneling power out of their hands and towards big corporations; it promises to democratize creative pursuits and yet may also make it harder than ever to turn those passions into a sustainable career.

One thing, however, is clear: regardless of how they feel about the fact, generative AI will have a profound effect on the lives and careers of America's creative class. Many have already found that existing AI applications have transformed their workflow and propelled them to new levels of productivity and efficiency. As these tools become more accessible and sophisticated, the pressure to engage and experiment with them will only continue to build.

That's why now is the moment for robust dialogue among stakeholders. To many within the creative class, the core question right now is a simple one: Who benefits? Who's going to win and who will lose

out from the AI revolution? And how do I make sure that I'm on the right side of that equation?

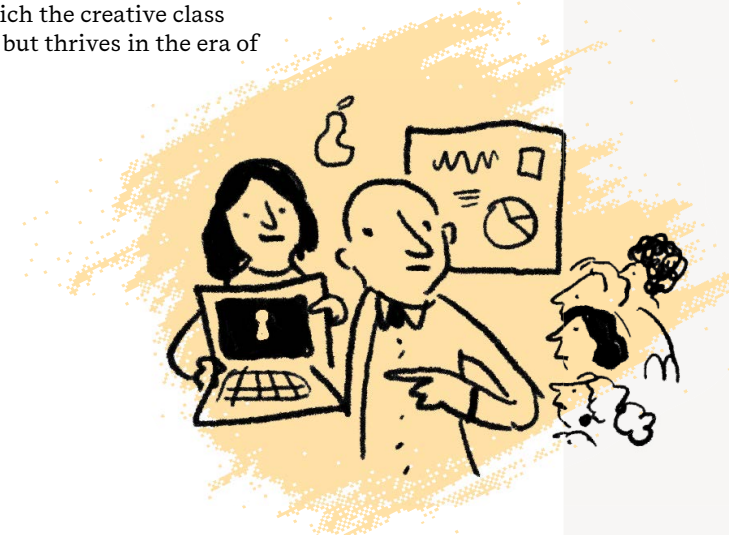
Fortunately, there's plenty that we can do right now to promote the development of an environment where creativity and technology amplify each other's strengths rather than exacerbate existing inequities. Policies, for example, that protect the interests of creators, promote equitable access to AI tools, and ensure transparent practices in AI development can all help to mitigate the risks of centralization and loss of creative control.

In the end, the legacy of generative AI in creative industries will be shaped by our collective capacity to envision and implement models of collaboration that uphold the value of human creativity in concert with the efficiencies of artificial intelligence. Embracing this challenge opens up a realm of possibilities for innovation, cultural expression, and economic opportunity—creating space for a future in which the creative class not only survives but thrives in the era of generative AI.

RECOMMENDATIONS

Optimizing AI products for creatives

- 1 Build functionality into your AI products that allows creatives to feel a greater sense of control over the end product, such as the ability to fine tune artistic style or tone of voice.
- 2 Invest in training and certification programs that can enable all creatives—not just developers—to make effective use of AI tools.
- 3 Be proactive in responding to creatives' concerns about AI infringing on their intellectual property—if necessary, by becoming more transparent about the sources of training data.
- 4 Provide users with greater transparency about how their data is stored and used when interacting with AI platforms.
- 5 Demonstrate, through marketing and comms strategy, a commitment to understanding the needs of individual artists and creatives—allaying fears that AI will primarily serve the interests of large corporations.





Watercolor swashes throughout this report were generated using Adobe Firefly to demonstrate a harmonious and collaborative way to mix human and AI-generated artwork.



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**Westwood Economics & Planning Associates** is a Los Angeles-based economic analysis firm that provides analysis and advice to enterprises and communities about how to deal with ongoing economic change. Westwood also develops custom digital dashboards that allow for communities and enterprises to understand ongoing economic changes. It is currently engaged in research into the creative economy, platform-based creation, and sustainable energy transitions.

**METHODOLOGY**

Unless otherwise specified, data in this report comes from a study of 1,504 members of the US creative class in full- or part-time employment, ages 18 to 64, conducted online in February 2024. Creative class professionals were identified through assessment of day-to-day job responsibilities, overall level of creativity required for their job, and degree of autonomy in the workplace. This sample was weighted to be demographically representative of the American creative class in terms of race, age, and gender, based on economic modeling conducted by Westwood Economics & Planning Associates. Additional insights have been drawn from in-depth interviews conducted with creatives as well as previous studies conducted by NRG.

**DESIGN & ILLUSTRATIONS**



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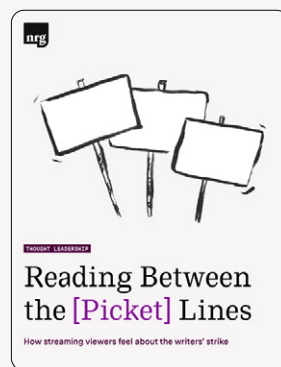


Illustrations by Hannah Robinson

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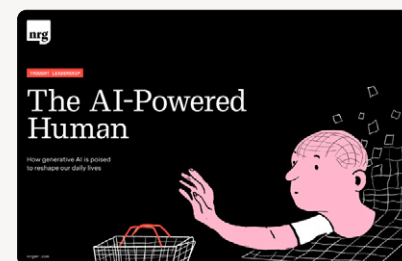
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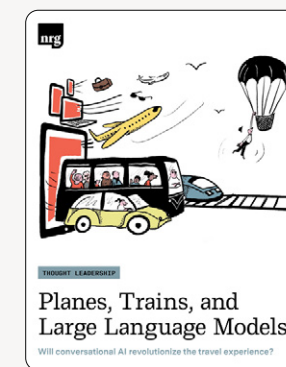
**Reading Between the [Picket] Lines**  
The role of AI in Hollywood's WGA strike



**The Accountable AI Playbook**  
Understanding consumers' fears and anxieties around AI, and how businesses can develop messaging that accommodates them



**The AI-Powered Human**  
How AI could transform consumers' daily lives, and the use cases they're most excited about



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How AI could revolutionize the travel and hospitality industry



**Pressing Play on AI**  
The impact of AI on the video game industry