

The Future Is Here: AI Will Define the Next 100 Years

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On AI as the most powerful tool museums — and humanity — can access, and how the cultural sector should engage rather than retreat.

For decades, science fiction has shaped the ambitions of visionaries, artists, entrepreneurs, and the masses. Bold and often fantastical visions of the future have long opened minds and influenced our imaginations. In the internet age, innovators and disruptors often cite sci-fi as a major influence in their life's work—essentially creating the future. What once seemed like novelty—intelligent robots, self-driving cars, private space travel—is now here. And what feels far-fetched today may become tomorrow's reality.

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Technology has never moved faster in all of human history, a reality that both excites and terrifies! AI is already transforming industries at a pace that was unimaginable even a few years ago. Museums and cultural institutions are no exception. This isn't speculation or a distant possibility. It's happening now. AI is reshaping and ultimately challenging how we live, learn, work, and connect, even in museums.

In conversations about AI, I often hear a mix of excitement and caution. Some museum professionals are actively exploring its potential, while others are hesitant about the risks and seemingly opaque ethical questions. Let me be clear: AI is not a silver bullet, but it's also not a passing fad. From where I sit, AI is the most powerful tool museums, and humanity, can access. We have the rare opportunity to work together to ensure we are making the most of this pivotal moment.

Of course, there is hype and no shortage of noise around AI. Yes, there are legitimate ethical concerns. But there are also opportunities we cannot afford to ignore. AI can expand access to knowledge, elevate collections, accelerate discoveries, and drive deeper engagement. The real question isn't whether AI will transform museums—it is how museums will harness AI to serve and advance their mission.

Big, Bold, and Transformative Projects

As a cultural technologist and proud museum nerd, I am always searching for audacious projects that demonstrate how technology can uplift human creativity and world heritage. These endeavors not only inspire the public but raise the bar for what cultural, artistic, and educational institutions can accomplish. As the following examples show, AI is already cracking open ancient mysteries, reviving lost art, and producing new cultural experiences that are accessible and globally impactful.

The Vesuvius Challenge

In 79 AD, the eruption of Mount Vesuvius buried the city of Herculaneum and its library of ancient scrolls. For centuries, these texts remained unreadable—carbonized by volcanic heat and too fragile to unroll. Scholars knew they contained valuable insights into Roman philosophy and literature, but there was no way to access them without destroying them.

That changed in 2023 when researchers used AI to decode the first words from these scrolls. By training machine learning models to detect ink hidden beneath layers of carbonized papyrus, AI was able to virtually “unroll” and help decipher them.

This is more than an academic breakthrough. It’s a glimpse into how AI can function as a “digital archaeologist” or resurrectionist, recovering knowledge that would otherwise remain lost or impossible to translate meaningfully. AI is being used as the ultimate code cracker, enabling humankind to unearth more meaning and knowledge. The implications extend far beyond these scrolls. AI is decoding faded manuscripts, restoring damaged artifacts, and reconstructing historical records in ways that were previously impossible.

Digital Twin of Epic Proportions

St. Peter’s Basilica in Vatican City is widely considered one of the most important cultural, religious, and architectural sites in the world. Yet, like many historic landmarks, it faces challenges: structural deterioration, limited access, and constant conservation. Recently, a massive AI-driven project produced a “digital twin” of the basilica—a hyper-detailed virtual replica created from 400,000 images and enhanced by machine learning.

Just a few years ago, such an endeavor would have required an unfathomable amount of technical and financial resources and a highly skilled team of experts, putting it out of reach of even the most well-funded institutions. Now, scholars can study the site’s evolution, conservators can monitor structural issues, and the public can explore it remotely. With AI, digital twins are becoming an essential tool for heritage preservation, especially sites threatened by climate change, urbanization, political instability, or the negative impact of tourism.

Klimt’s Lost Colors

Millions of works of art and culture have been lost to war, theft, or crisis. While nothing can replace or reconcile this sorrowful reality, recent projects show how technology can help restore cultural memory.

Three masterpieces by Austrian artist Gustav Klimt were destroyed during World War II. Only black-and-white photographs survived, leaving art historians to guess at their original appearance. Using advanced AI, Google Arts & Culture reconstructed the paintings by analyzing Klimt’s broader body of work and historical documentation.

The result isn’t just digital restoration—it is a window into the past as it was meant to be seen. AI is also helping museums detect forgeries, restore faded frescoes, and create visual descriptions for visitors with visual impairments. Importantly, AI isn’t replacing human creation or interpretation; it’s enhancing it.

Lowering the Barriers and Raising the Bar

According to McKinsey's 2024 global report on AI, over 78 percent of organizations surveyed are already using AI in at least one function, with marketing, operations, and content development leading the way. In early April, ChatGPT reached a record 150 million weekly active users. It's abundantly clear that AI has found its place in our everyday lives and industries with no signs of slowing down.

As with every technological wave, public expectations evolve. Audiences now expect more convenience and personalization in every interaction, and museums are responding. The Louvre has introduced conversational AI-powered guides to answer visitor questions and help them navigate exhibitions. The British Museum and the Museum of Modern Art in New York are using machine learning to analyze audience behavior and improve access to their collections.

What is different this time is AI's accessibility; its barrier to entry is low. Small museums with limited budgets and staff can now use AI for content creation, data management, and visitor engagement. This feels like one of the first times that cultural organizations of every size and type have a seat at the table.

Of course, over the years we have seen technology come and go. But AI is not a passing trend. Just as email and social media became essential skills for museum professionals, so too will AI literacy. Institutions that invest in professional development and cultivate a culture of collaboration around AI will be positioned to succeed.

Tapping into the power of AI is not about replacing human expertise. And every museum will need to ensure AI is applied in ways that align with its institutional values. Museums have a responsibility to guide AI's role in cultural heritage, not just react to it.

Looking Ahead

AI is a powerful tool that must be used responsibly. Its ethics and legal frameworks are still being shaped, and museums will need to determine how AI aligns with the field's values. The key is not to reject AI out of fear but to engage with it critically. We must ask hard questions about accuracy, bias, workforce impact, transparency, and representation.

AI is expanding what is possible in every industry. In our field, it has the potential to make museums more accessible, art more engaging, education more immersive, and operations more efficient. It is unlocking knowledge at a scale previously unimaginable.

I believe that AI will transform museums for the better—if we take the lead. Rather than waiting for its full potential to unfold, museums should push their limits now, seeing what answers AI can provide and how it can help us continue to deliver on our missions thoughtfully, essentially, and effectively.

We, as museum and cultural professionals, can determine how AI is used to benefit all. We can harness AI to elevate history and inspire the future. The future won't wait—and neither should we. Let's make sure museums have a front-row seat in the age of AI.

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