


The background features a dark silhouette of a person with their hands raised, set against a teal, glowing background. Multiple translucent, glowing hand silhouettes are scattered across the teal area, creating a sense of movement and digital interaction.

AI AND THE FESTIVALS

Thoughts on how the Edinburgh Festivals might respond to the opportunities and challenges of Artificial Intelligence.

May 2026



Published by **Festivals Edinburgh** Ltd [2026]

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Foreword

Back in August 1999, the *Guardian* journalist Vic Keegan wrote of the unexpected attraction at the Edinburgh Festivals that month being *'a sneak preview of what is claimed to be the world's first mobile media phone – the first of a new generation that could bring the internet to the mass market.'* The test model phone – a Nokia 7110e using the Orange network – accessed the internet at high speeds through WAP (Wireless Application Protocol) technology and used the festivals website listings as their testbed. And he concluded that *'it is easy to see the huge potential of devices like this to change the way we communicate with each other.'*

More than 25 years on, we are at another technological leap and one which may fundamentally alter our communication patterns, namely Artificial Intelligence [AI] – and as in 1999, the Edinburgh Festivals want to be at the cutting edge of such developments rather than sitting passively on the sidelines, using our globally renowned platforms as living laboratories of creative thinking.

Currently we are grappling with the opportunities and challenges of AI, and how it pertains to all aspects of our festivals' world – from artistic programming across business planning to audience promotion, and everything in between. A working group of staff from across our festivals has been formed with the aim of identifying the pertinent issues and planning a programme of relevant actions/interventions.

Building on their knowledge of the AI work of organisations such as The Audience Agency and the Arts Marketing Association, the group identified that an interesting contribution to our exploration could be a series of think pieces/provocation papers.

To that end we asked various academics to respond to a specific request: 'What do the festivals need to know now for then' [to borrow from Ben Hammersley] and 'How should the Edinburgh Festivals respond/harness/exploit/develop AI'? In writing their 'papers', we did not want to suggest an area of focus. Instead, we simply asked that each contributor come at the question from their own specific perspective, noting that the various academics each had a different specialism and we therefore felt that the various 'papers' would automatically complement each other without the need for this to be structured in advance. The result is the publication you have in front of you.

We would like to take this opportunity to thank all the academics from the University of Edinburgh for their time, expertise, and willingness to help us on our AI journey with their contributions to this publication. We would in particular like to thank the author of the final contribution in this publication, namely Janette Roush, Chief AI Officer at Brand USA, who provides us with a concluding practical perspective from across the Atlantic.

In addition, we'd like to thank the team at the Edinburgh Futures Institute for their help in collating all the contributions, in particular Cate Shupe without whose patience and perseverance we would never have brought it all together. And finally, our thanks go to EventScotland part of VisitScotland, not only for their funding support in preparing this publication, but their ongoing strategic support for our work, sitting as it does at the heart of Scotland's [National Events Strategy](#), *Scotland the Perfect Stage 2024–2035*.



SOME DEEP THOUGHTS

Festivals and AI: shaping AI futures through cultural practice

Professor Drew Hemment

Edinburgh's Festivals can open diverse and equitable AI futures – commissioning work that is culturally and technically significant, where artists are opening new territory. Work that will travel, be cited, be remembered. That is not a prediction or an aspiration: it is something Edinburgh's Festivals have already done. This article tells that story, sets it in a longer tradition, and draws out what it means for the years ahead.

I have been working at this intersection for three decades – through FutureEverything, the festival I founded in 1995 and built into one of Manchester's defining cultural institutions, and since 2018 through The New Real and Doing AI Differently at the University of Edinburgh and The Alan Turing Institute. I have a stake in the argument that follows. That stake is the vantage point from which it is made.

In April 2026, Arts Council England formally recognised Digital Arts as its tenth supported artform – the first new artform ACE has introduced in decades. Digital Arts now sits alongside theatre, dance and music in ACE's funding programmes; from April 2027, it will have its own dedicated portfolio within ACE's National Portfolio Organisations. In Scotland, Creative Scotland supports work in Creative Technology and Network Culture and is part of the UK-wide programme on Immersive Arts. ACE's jurisdiction stops at the border; the shift in thinking it signals does not. This is a formal acknowledgement that the future we have been prototyping has arrived, and that festival programmers should now be thinking of AI in terms of artistic programme.

A synthetic future foretold – The New Real and Edinburgh's Festivals

In 2020, I commissioned two new works for Edinburgh International Festival 2021 – the first digital exhibition in the festival's history – working with the festival's Creative Director, Roy Luxford.¹ *The Zizi Show* by Jake Elwes was an interactive, online drag performance generated by AI trained on recordings of real drag performers, made in collaboration with a south London drag community during lockdown. *Cypress Trees*, by Anna Ridler and Caroline Sindors, explored the hidden human labour behind AI systems. Together they announced what this kind of commissioning could be: dazzling and deeply political encounters with what AI is, and what it does.

The Zizi Show confronts the lack of LGBTQ+ representation in training datasets and lays bare the Janus-faced nature of a technology that can both empower and harm. It went on to receive an Honorary Mention at Prix Ars Electronica – the world's most prestigious digital art prize – and has since been shown at the V&A London, Art SG Singapore, JUT Art Museum in Taiwan, Gazelli Art House, and Pinakothek der Moderne in Germany. A work commissioned in Edinburgh, in direct collaboration with one of Edinburgh's Festivals, went on to shape international conversation on AI, identity and representation. This is what pathfinding commissioning looks like.

¹ Hemment, D. et al. (2022). Illuminating the New Real. Edinburgh: The New Real. <https://newreal.cc/publications/illuminating-the-new-real>

The New Real was not a single exhibition but a sustained collaboration between the University of Edinburgh, The Alan Turing Institute, and Edinburgh's Festivals. Partners in the wider Resilience in the New Real research project included Edinburgh International Festival, Edinburgh Science Festival, Edinburgh Art Festival, Edinburgh International Book Festival, Ars Electronica, the BBC, The Space, the City of Edinburgh Council and Creative Scotland. Together, we explored what it means for cultural organisations to commission and present significant new work at the intersection of AI, data and artistic practice, in ways that are ethically grounded and critically alive to what the technology does and to whom.

In 2023, through The New Real, my collaborator Matjaz Vidmar and I published the first edition of The New Real Magazine: 'Generative AI Arts: A Synthetic Future Foretold'. At a moment when the explosion of generative AI was dominating public conversation, the magazine made a different argument: that a community of artists had been working with and on AI for a decade before the current wave, and that they had foretold this future through their practice.² That community had been grappling with bias, consent, labour, representation and power in AI systems long before those issues became mainstream concerns. The magazine documented that tradition and made its continuing relevance visible. It is, among other things, a record of work Edinburgh's Festivals helped make – a piece of history that deserves to be known and celebrated.

The long arc – FutureEverything and the festival-as-lab

The New Real did not emerge from nowhere. Its roots lie in three decades of work at FutureEverything, the festival I founded as Futuresonic in 1995. Over those thirty years, FutureEverything shaped fields that are now central to global cultural and technological discourse: locative media, open data, smart cities and data arts. It was named by *The Guardian* one of the top ten ideas festivals in the world, cited by Arts Council England as one of the key organisations connecting research and creative communities, and invited by Singapore to curate the flagship event for its fiftieth anniversary. It grew from a festival into a year-round arts and innovation agency of international reach.

FutureEverything's engagement with AI and data arts runs through that entire history. Even in the earliest editions, we were exploring generative art using neural networks – Atmospheric Spectra's sound synthesis work is one example from that period.³ In 2011, I curated *Data Dimension*, a major exhibition featuring sixteen works by artists including Chris Milk and Aaron Koblin, Timo Arnall, and Nathalie Miebach, as the field of data arts was finding its language. In more recent years, under Creative Director Irini Papadimitriou, FutureEverything produced a series of landmark international exhibitions bringing critical and experiential perspectives on AI to broad public audiences: *You and AI: Through the Algorithmic Lens*, with over 80,000 visitors in Athens and Rome; and *Plasmata: Bodies, Dreams and Data*, which reached 400,000 visitors in person and a television audience of 3.5 million.

² Hemment, D. (2023). Generative AI Arts: A Synthetic Future Foretold (Editorial). The New Real Magazine, 1. Edinburgh: The New Real. pp. 6–9. <https://www.newreal.cc/magazine/generative-ai-arts-editorial>

³ Hemment, D. and Manghani, S. Sensing Emergence: Four decades of anticipatory research from electronic arts to interpretive AI. <https://doi.org/10.1080/14702029.2025.2578124>

“ A festival can be a temporary laboratory for futures, a space to prototype new ideas and new forms before the mainstream catches up. ”

Underlying all of this is the festival-as-lab concept I developed from the 2000s onwards: the idea that a festival can be a temporary laboratory for futures, a space to prototype new ideas and new forms before the mainstream catches up. The festival-as-lab approach treats the festival not as a showcase for what has already been decided, but as the instrument through which a culture works out what new technologies might mean. The international influence of the festival-as-lab approach was illustrated when MUTEK in Montreal invited me to be opening and closing keynote at the Future Festivals edition of the festival in 2023. To go alongside that, I developed a framework with six trajectories for festivals as incubators of futures, in the article 'Trajectories for festival futures: Lightning rods and serendipitous discovery' published in their *Future Festivals Field Guide*.⁴

Artists have been working seriously with AI since the 1960s, when Harold Cohen developed AARON at the University of California – a tradition that runs from those earliest computer-generated works through the generative art of the 1990s, the machine-learning experiments of the 2010s, and the generative AI wave of the present decade.⁵ FutureEverything's AI exhibitions were part of that long tradition, in dialogue with it. The New Real extended that tradition into Edinburgh.

FutureEverything closed on 4 April 2026. I continue its mission through *Doing AI Differently*, which I lead for The Alan Turing Institute and University of Edinburgh.

Before closing, the Board asked me as founder to be custodian of FutureEverything's legacy, and that is a commitment and a project I have brought to Edinburgh. It is sad but resonant that FutureEverything closes at the moment its future has arrived.

What festivals need to know now

Artists and AI

There is sometimes a tendency, in conversations about AI and culture, to treat AI as a set of tools that cultural organisations can adopt or resist. That can distract from where the most interesting and significant work is happening. What artists working with AI are producing right now is some of the most profound and astonishing work of this cultural moment – aesthetically compelling, and alive to what this moment is asking of us. Good art has always done this: opened questions that resist easy answers, made the unfamiliar newly strange, held up a mirror to what we are becoming. AI art at its best is no different.

Rachel Maclean, one of Scotland's leading artists and Scotland's representative at the Venice Biennale in 2017, trained AI models on her entire back catalogue for her contribution to *Tipping Point: Artist Responses to AI* at Edinburgh Art Festival 2025. The resulting work explores the tension between what AI is and what it feels like to interact with, and sits with that tension rather than resolving it.

⁴ Hemment, D. (2024). Trajectories for Future Festivals: Lightning Rods and Serendipitous Discovery, in Future Festivals Field Guide. HOLO (with MUTEK). <https://www.holo.mg/dossiers/future-festivals-field-guide/trajectories-for-future-festivals>

⁵ Vidmar, M., Hemment, D., Murray-Rust, D., Black, S. (2024). On creative practice and generative AI: Co-shaping the development of emerging artistic technologies. In Terras et al. (2024). Data-Driven Innovation in the Creative Industries. London: Routledge. <https://doi.org/10.4324/9781003365891-9>

Tipping Point, presented by the BRAID programme (Bridging Responsible AI Divides) at Inspace, commissioned seven new AI artworks in total, including work by Louise Ashcroft, Julie Freeman and Wesley Goatley – evidence of a growing ecosystem of artists working seriously with AI in Edinburgh and beyond.

At the Edinburgh Fringe, Venue 13 (a long-standing venue at the foot of the Royal Mile, run by Ian Garrett and Vanesa Kelly) is a convening point for an international network of artists working at the intersection of AI, immersive storytelling and ecology. Set alongside BRAID, Doing AI Differently, and so much more, it is clear that Edinburgh already has the depth of infrastructure, relationships and expertise that other cities are trying to build. The question is how centrally the festivals choose to build on it.

Festivals are among the few cultural institutions that can create the conditions for that kind of encounter at scale – bringing together artists, publics, researchers and policymakers in a live, shared space. That social function, as a place where culture asks urgent questions of itself and of its futures, is older than AI and larger than any single artform. But it has rarely been more needed.

Responsible AI and the wider landscape

Commissioning significant AI art is also a choice about what kind of AI futures you want to help bring about. Responsible AI development means taking seriously the questions artists are already asking: whose data is used and on what terms, who benefits from this technology, what are the environmental costs, and what values are encoded in the systems we build and present.

On IP and creative rights, the UK government and UKRI are developing significant frameworks. The UK Creative Content Exchange – a

government-backed, UKRI-supported pilot – is developing a trusted marketplace for licensing and accessing creative intellectual property and datasets for AI training, with the goal of enabling fair compensation, provenance tracking and responsible data use. It is still experimental, and not all the hard questions about governance, pricing and participation have been resolved. But it represents a serious attempt to balance AI innovation with the protection and growth of the UK creative economy, and festivals should be tracking it and, where possible, contributing to it.

On sustainability: AI is energy intensive. The computational costs of training and running large models are substantial and growing. As someone whose work at The Alan Turing Institute sits within its sustainability mission, I see this as a central issue for the AI community to address. It is equally vital that organisations commissioning AI work factor environmental costs into their decision-making, and support artists who are exploring more responsible approaches.

Five recommendations

If I were to distil everything above into a forward agenda for Edinburgh's Festivals, it would come to this.

Be a festival that opens diverse and equitable AI futures – commission work that is culturally and technically significant, where artists are opening new territory. Work that will travel, be cited, be remembered. *The Zizi Show* is a benchmark: a work made in Edinburgh, in collaboration with one of Edinburgh's Festivals, that went on to shape international conversation on AI, identity and representation. That ambition is what this moment calls for.

“ AI is no longer a specialist interest. It is the medium in which culture increasingly operates. ”

Convene across sectors – the festivals are uniquely placed to bring together artists, researchers, technologists and policymakers. Edinburgh already has the ecosystem, from major international programmes to the grass roots; don't start from scratch. The New Real demonstrated what structured partnership between a university, a national AI institute and a festivals community can produce. That model is available to be built on.

Develop a shared position on AI – not a policy document, but a stated set of values about what kind of AI futures the festivals want to help bring about. This is cultural leadership. A shared position is not a constraint; it is a foundation from which to commission, programme and advocate with authority.

Use the programme to develop AI literacies – artists working with AI are uniquely able to interrogate what AI is, what it does, and what is at stake; programme that work deliberately, to build critical intelligence around AI among artists, professionals and audiences. The festivals are among the few institutions with the reach and the trust to do this at scale, in a way that is part of a cultural conversation rather than didactic.

Make a long-term commitment precisely because the technology is moving so fast – don't respond to the technology, get ahead of it. Invest in sustained relationships with artists, researchers and ideas, so that programming has depth and direction whatever the technology does next. The essential thing is not the specific model but the commitment: to be a festival that convenes important conversations with artists and audiences, not one that simply presents whatever the future turns out to have been.

The future is here

There is something worth sitting with here about where we now are.

AI art was once a specific tradition – a community of artists working with machine learning, generative systems and data, at the edges of what the mainstream arts world recognised or supported. The debates that community was having, about bias, consent, labour, representation, the environmental costs of computation, were viewed by many as niche. They were not. They were just early.

FutureEverything's closure announcement put it plainly: “The era it helped define is now everywhere – and that is both its legacy and its reason for closing”.⁶ Digital culture no longer exists as a discrete field. AI is no longer a specialist interest. It is the medium in which culture increasingly operates. What was once the new real is no longer so new. We are living inside the future that was foretold.

That is a profound change for festivals. The question is no longer whether to engage with AI but how to lead in a landscape where every cultural organisation is navigating the same territory. The festivals that will matter are those that commission work of genuine significance – not because it uses AI, but because it opens something true about the world we are living in.

Edinburgh's Festivals helped prototype this future. They are now positioned to help define what comes next.

⁶ FutureEverything. (2026). Landmark digital culture organisation FutureEverything closes, marking end of an era. <https://futureeverything.org/news/closure-announcement>

What the Edinburgh Festivals need to know about AI

Dr Vaishak Belle

Generative AI (ChatGPT, Gemini, and the like that can produce essays and images based on “prompts”), only a small if loud corner of the broader AI landscape, has brought discussions about the adoption and risks of AI to the forefront. Most seem to use it for rather routine tasks such as writing summaries and drafting marketing emails. Alarmingly, some seem to use Generative AI to look up medical advice. The discourse swings between optimism and fear. For an artistic community and endeavour such as Edinburgh’s Festivals, neither framing is useful. What is needed is an informed, cautious viewpoint: understanding what these systems actually are, where they (might) help, and where they cause damage.

There is a version of this narrative that begins with a provocation: AI will transform everything. There is another that begins with a correction: most of what you have heard is either exaggerated or wrong. Both are true. The technology is real, and some of it is useful. But it is best understood as a remix machine, not a creative mind, and that distinction matters for how the festivals engage with it.

What these systems actually are

The speed and accuracy with which current AI systems draft text, summarise documents, and generate images is technically non-trivial. Decades of research led here. That is not nothing.

But these systems are not intelligent in any meaningful sense. Generative AI, and by this we usually mean so-called large language models (LLMs) such as ChatGPT, generate outputs based on correlations in their training

data. If I were to start a sentence such as “Moana and the chicken crossed”, most who have seen the Disney movie *Moana* would expect the sentence to complete with “the sea”, rather than, say, “the road”, and this is precisely what the LLM would give you too. To get more “creative” outputs, you can ask it to consider more unusual “completions”, and so maybe you could get an alternative scenario when Moana crossed the road in modern-day New York City. But this strategy inevitably leads to “hallucinations”, confabulations being a more accurate term, which are falsehoods that appear plausible but lack any connection to reality.

Thus, LLMs produce pastiche. They recombine patterns from their data. The term “AI slop” has entered common use because people recognise the texture of this output: plausible, robotic and strangely empty.

When everything starts to sound the same

AI systems increasingly produce and act upon cultural outputs, including language, images, and narratives, yet lack frameworks for interpreting the cultural content they generate and encounter. A handful of companies build almost all of these systems, and they all make similar choices about what to optimise for: mainly engagement and obsequiousness, which leads to confirmation bias and populist takes. It sounds like an expert without human judgement and criticality. The result is technology that gravitates toward the familiar, the mundane, and ultimately the mediocre. It is, by design, an engine of the mainstream.



Where things go wrong is when the tool gets used indiscriminately, in lieu of thought and care.



The Edinburgh Festivals exist, in part, to be the opposite: a venue where artists take risks and occasionally produce something that challenges us and makes us uncomfortable, pushing humour and medium to intentional unfamiliar territories. No algorithm trained on past data will find that. Only human attention will.

What to do, and what not to do

The practical answer is less dramatic than either the optimists or the pessimists suggest. There are things these tools do well: drafting a first version of a press release, transcribing a post-show discussion, generating captions for accessibility, summarising a long funding document at midnight before a deadline. For all of these, the texture of the output matters less than the time saved, and a human is still checking the work anyway. Use them there perhaps. However, these tools have a significant ecological footprint: every query, every generated image, every transcribed discussion draws on data centres consuming substantial energy. And much of what these models learned to mimic was made by artists, writers, and musicians, almost always without permission or compensation. Using the tools thoughtfully means being honest about both of those debts.

There is also a quieter cost. Reaching for the tool to save time is often taking away an opportunity for a younger colleague to learn something. The festivals, like any creative institution, run partly on the transmission of tacit knowledge.

Where things go wrong is when the tool gets used indiscriminately, in lieu of thought and care. Deciding which artists to include in the programme, understanding why a piece of work matters to a particular community at a particular moment: these are acts of interpretation. They require what the humanities have always offered: the capacity to sit with ambiguity. The festivals are full of people with exactly those skills. The risk is not that AI replaces them. The risk is that, under pressure of time and budget, organisations reach for the tool when they should be reaching for the person.

On a more positive and critical side, we have already seen artists engage with AI systems in ways that are inventive and serious: not using the tool to produce content faster, but interrogating what it means that such a tool exists, what it reveals about how we represent the world. The festivals have an opportunity to be a site where that work gets shown, discussed, and understood. That is the relationship that cultural institutions have always had to new technologies: not adoption or rejection, but engagement and critical attention.

What is coming

Needless to say, the technology is moving fast, some would say too fast for comfort, and the confident predictions of three years ago have not aged well. It is becoming clear that the current generation of tools will not keep improving indefinitely at the current rate. The easy gains from scaling up training data are running out.

“ AI is disrupting knowledge work in ways that risk diminishing rather than enhancing human agency. ”

These systems already cost close to \$100 million to train and have consumed substantial portions of all human-generated text. Yet they make blindingly silly mistakes: when asked whether to drive or walk to a car wash fifty metres away, they suggest walking, missing the obvious fact that you need the car there to wash it. What replaces the current approach, and whether future systems can understand the world and its objects more reliably, remains uncertain. Ultimately, what the festivals need is not a catch-all policy on AI. It is a clear-eyed judgment about what these systems can and cannot do, and the confidence to act on that judgment even when the technology is moving fast and the pressure to adopt is loud.

However, we don't need very smart tools to erode the social fabric. Consider how deepfakes are already destabilising our account of truth and undermining democratic discourse. AI is disrupting knowledge work in ways that risk diminishing rather than

enhancing human agency. Research is beginning to show that people who rely heavily on these tools for creative tasks remember less and explore fewer ideas. For organisations whose entire reason for existing is to expand what audiences think is possible, that is worth taking seriously. The goal should be augmentation: AI handling the routine so that human attention can go where it is needed. Of course, rejecting the use of AI completely should also be an option. Many would argue there are strong political and ecological reasons, among others, to stay away from LLMs.

Our current economic climate is challenging, and coupled with climate change, the pressures organisations are facing are growing: shrinking budgets, accelerating timelines, the demand to reach wider audiences with fewer staff. Those pressures are real, and the tools may offer some relief. The task, perhaps, is to accept that relief where it is useful, and to protect, quite deliberately, the spaces where human judgment matters most.

> Further reading:

<https://www.turing.ac.uk/news/publications/doing-ai-differently>

<https://www.research.ed.ac.uk/en/publications/the-future-is-neuro-symbolic-where-has-it-been-and-where-is-it-go/>

<https://direct.mit.edu/leon/article-abstract/57/3/298/120451/Experiential-AI-Between-Arts-and-Explainable-AI>

AI, Trust, and the Future of Festival Communications

Dr Caterina Moruzzi

1 When “made with AI” becomes the story

Imagine the following scenario: At one of the Edinburgh Festivals, a small theatre production premieres with a largely conventional show which presents a moment in which performers respond to a line of text generated live by a large language model. Within hours, a promotional clip circulates online with the caption “a new festival show created with AI” and reposts frame the show as “AI theatre.” Some comments express curiosity, many an open hostility. The creative team issues a clarification but the first impression has already travelled further: some audience members withdraw bookings, others attend expecting a fully AI-generated show and feel misled when they realise it is not.

Festivals and their audiences share the implicit understanding that what is being presented is what it claims to be, that it is framed responsibly, and that the institution can be relied upon as a trusted source. But incidents like the fictional one described above show how trust is formed in the contemporary cultural public sphere. In practice, people encounter most festival communications in conditions of quick scrolling, high information load, and rapid judgement. Research shows that, in these “fast” conditions, audiences often rely on heuristics and surface cues to decide what to trust (Kahneman, 2011; Moruzzi et al., 2025).

There is broad consensus in recognising authenticity as a core value in the arts. Authenticity underwrites claims about originality, skill, and human engagement, and it also anchors audience expectations. When the expectations that are formed are broken, audiences may lose confidence not just in a particular artwork or performance but more broadly in the ability of institutions (in this case festivals) to act as trustworthy mediators.

In the current media environment, which is increasingly characterised by the presence of AI-mediated content, authenticity and clear provenance disclosure become an essential part of the cultural legitimacy infrastructure. The problem is not whether AI will be used, as it already is, but rather how its use is disclosed and interpreted by the audience.

2 Why festivals are a special case for authenticity

Festival culture is tied to traditions of craft, embodied skills, authorship, and live performance. The value of the work is something related to a specific place and time (Walter Benjamin's “here and now”, 1969), with a particular configuration of bodies, skills, and engagement that technological mediation can destabilise. At the same time, festivals are spaces of experimentation and new art forms, including those working critically with digital technologies.

“ Paradoxically, the more seamless AI output becomes, the more it can generate a perception that something is off. ”

Festivals are also producers and distributors of digital artefacts: listings, programme notes, trailers, interviews, promotional photography, social media clips, livestreams, recordings. Each of these artefacts now exists in an environment where synthetic generation and editing are easy and increasingly normal. As a result, festivals operate within a content supply chain where questions of origin and accountability matter to audiences as much as the final output.

In some contexts, AI will be used as an artistic medium. In others, it will be a layer of production, embedded into workflows for speed, cost, accessibility, or convenience. These two modes raise different issues, but both converge on this same question: what do festivals owe artists and audiences when authenticity is increasingly contested, and when the “how it was made” of cultural material can no longer be inferred from its appearance?

3 How AI impacts authenticity

Generative AI unsettles traditional understandings of authenticity in at least two ways: it changes what we can infer from an artefact, and what we value about it.

The first change is epistemic. In many media contexts, audiences rely on appearance as a marker of provenance: photorealism suggests a link to something that really happened, clean audio suggests professional recording, and continuity of style suggests clear authorship.

AI-mediated generation weakens these inferences, as synthetic media can be plausible without any underlying real event it refers to, and content can be edited without leaving obvious traces (Cunningham, 2024). This has placed renewed emphasis on provenance tools that aim to document origin and editing history. In recent years, standards like that by the content provenance and authenticity (C2PA) have emerged to support verifiable provenance through cryptographically signed manifests embedded in media files, and these approaches are increasingly implemented through “content credentials” tools (<https://c2pa.org/>).

The second change is cultural. Generative AI breaks the link between surface quality and underlying effort and labour. When highly polished images, text, or sound can be produced quickly and at scale, audiences can no longer treat surface quality as evidence of the time, effort, and skill that was required to create them. The search for quality then shifts to the process, and authenticity increasingly attaches to what is scarce and difficult to automate, such as embodied practice, situated making, and the trace of real time spent on the process of creation (Burk, 2023). Paradoxically, the more seamless AI output becomes, the more it can generate a perception that something is off. This often results in distrust of “AI slop,” an emerging shorthand for media that seems low-effort and aesthetically homogenised (Madsen and Puyt, 2025).

In authenticity debates, the term “authenticity” is often treated as if it were one clear standard. In practice, it is a cluster of different values that become relevant in different contexts (Moruzzi et al., 2027). For instance, authenticity sometimes means correct attribution (who made this, and who should be credited), sometimes a unique history (what chain of processes led to this object), sometimes alignment with expectations (is this like what it claims to be), or with values and intentions (why was this made, what does it express, and does it respect the norms of a tradition or community). Audience’s expectations also change considerably depending on whether content is news, satire, documentary, advertising, or artistic work, and depending on where it is encountered (for example, on social media versus within a curated venue).

Research on provenance and authenticity shows that provenance information can support audience trust, especially when it helps users understand the history of changes made to content (Feng et al., 2023; Wittenberg et al., 2024). At the same time, the human-versus-AI binary is widely experienced as dissatisfying. People often do not primarily want to know only whether AI was involved but also why AI was used: did it merely improve a technical quality, or did it alter meaning? Was it used for speed and convenience, for satire and critique, for accessibility, or to simulate evidence?

4 Lessons from Authenticity Unmasked

In August 2025, we hosted the exhibition *Authenticity Unmasked: Unveiling AI-Driven Realities Through Art* as part of the Edinburgh Fringe and the Edinburgh Art Festival.¹ The exhibition was conceived as a way to explore the tensions around authenticity and AI without reducing them to a purely technical problem. Rather than treating authenticity as something to be solved through detection, the exhibition treated it as something that is negotiated through perception, context, interaction, and intention.

Three newly commissioned artworks offered different routes into the issue of how AI is changing authenticity perceptions. In *Grokh Tung Tung* by dmstfctn, ambiguity became a method, prompting the audience to navigate the liminal space between perceived understanding and epistemic certainty, between plausibility and reality, hinting at the possibility that this liminal space might be where the authentic characteristics of AI are revealed. *Mimetic Virtuosity* by Georgia Gardner, foregrounded the embodied and emotional process of creation, reminding audiences that authenticity resides not in external validation but in the internal resonance of experience. *The View from Above* by Kinnari Saraiya, extended the authenticity inquiry outward, examining how individual agency is mediated by technology and how these mediations reconfigure social structures and geographical boundaries (Moruzzi et al., forthcoming).

The exhibition demonstrated that audiences can engage with authenticity as a complex cultural question. Approximately 600 visitors interacted with the works, and we gathered reflections that will support further analysis of how people form authenticity judgements in AI-mediated environments.

¹ The exhibition was part of the research project CREA-TEC, supported by the Bridging Responsible AI Divides (BRAID) programme with funds received from the Arts and Humanities Research Council (grant number AH/X007146/F), and it was developed through a collaboration between researchers, artists, and industry partners including Adobe and the Content Authenticity Initiative (<https://contentauthenticity.org>). More details available at this link: https://crea-tec.weebly.com/authenticity_unmasked.html.

“ Festivals play an important role in framing how audiences interpret what they see. ”

5 Practical takeaways for festivals

A work can be “authentic” in one sense and not in another, and this is not necessarily a problem, unless audiences expect one kind of authenticity but are given a different one. AI will increasingly be part of how culture is made and promoted. Festivals play an important role in framing how audiences interpret what they see, and they can respond to the increasing impact of AI taking the following steps:

- 1 **Treating “authenticity” as operating on two levels:** the authenticity of artworks/performances and the authenticity of the festivals’ institutional communications. For artworks and performances, festivals should protect creative freedom, including the right to use AI as an artistic medium, the right to critique AI, and, in some cases, the right to withhold process details that are integral to artistic meaning. Institutional communications should be governed differently, as audiences require and deserve clarity about what they are engaging with. This is where adopting provenance practices for key media assets and establishing consistent channel verification can become core aspects of institutional responsibility towards public trust.
- 2 **Moving beyond a single label, like “AI-assisted” or “AI-generated.”** Festivals could normalise a small set of clearer descriptions that communicate the kind of role AI played, to support the questions audiences actually have: what was changed, and what was the intention for the change?
- 3 **Being transparent about credit and consent.** As AI workflows distribute agency across tools, models, datasets, and human choices, it becomes easier for credit to become unclear. Festivals can ask for clarity about who is accountable for the final work and whose likeness, voice, or material has been used with consent. Clear crediting practices can also support creators in maintaining agency over how their work is framed and reused.
- 4 **Treating public engagement as part of the response.** The *Authenticity Unmasked* exhibition showed us that audiences can reflect meaningfully on authenticity when given the conditions to do so. Festivals could build reflective spaces into their programmes, treating AI as an opportunity to examine what communities value in art, performance, and cultural institutions.
- 5 **Being prepared.** Festivals may need a shared protocol for responding to plausible but false media during festival periods. The aim is to reduce response time, coordinate messaging, and protect both audiences and artists from the harms of rapid misinformation.

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GenAI takes over tasks, not jobs

Dr Michele Piazzai

A new industrial revolution seems to be upon us, a *Second Machine Age*,¹ and with it comes a great deal of anxiety about the future of creative professions. From journalists to policy-makers, chief executives and investment analysts, the refrain is consistent: generative artificial intelligence (GenAI) is the most disruptive technology since the internet and jobs that revolve around the production of text, imagery, code and sound are especially at risk. Creatives are aware of this, and in the battle to defend human employment they are leading the charge.² Meanwhile, companies cut staff in anticipation of spectacular productivity gains,³ academics predict the transformation of creative enterprises,⁴ trade bodies fret over transparency and copyright,^{5, 6} and sessions on the impact of AI on creative labour markets have become a staple at the World Economic Forum Annual Meeting.^{7, 8, 9}

As platforms whose core business is connecting creative workers with a global audience, Edinburgh Festivals should pay heed to these developments. The accelerating diffusion of GenAI bears vast and troubling implications for their values, mission, strategy, operations, reputation and revenue streams. They should maintain a critical outlook, however, and avoid the common blunder of misestimating what GenAI is currently capable of doing. Here are two important points to keep in mind.

First, some degree of apprehension is justified: GenAI does promise to upend the creative sector. Computer scientists have long conjectured that AI can be just as creative as humans,¹⁰ but only recently did it start snatching opportunities away. In 2023, for instance, a fake photograph produced by DALL-E, OpenAI's celebrated text-to-image model, was covertly submitted to the Creative category competition at the Sony World Photography Awards – and won.¹¹ The actual photographer behind the stunt declined the prize, but in analogous situations, others candidly took it home, inflaming social media and prompting organisers to revise participation rules.^{12, 13} Creatives are incensed that industries already known to be dehumanising winner-take-all systems¹⁴ no longer require winners to be even people.

By and large, the public sympathises and expresses dismay over the inauthenticity of AI-generated content.^{15, 16, 17} Some proclaim the death of artistry.¹⁸ One can only imagine the fallout if GenAI started crowding out professional authors, designers, directors, musicians and performers during the Edinburgh summer.

“ The productivity gains promised by GenAI reside in its potential to replace humans at specific production tasks, not entire jobs. ”

Second, stressing over the vaporisation of creative jobs or the beginning of “inevitable creative class wars”¹⁹ could be premature. Elsewhere in the economy, AI was supposed to kill millions of jobs by 2021, displacing a net 6-percent of the US workforce,²⁰ but these losses never materialised. Even in countries where GenAI is adopted most aggressively, unemployment rates remain historically low.²¹ Indeed, when it comes to AI, society has a history of getting things wrong. Even exceptionally smart and knowledgeable pundits can grossly overstate the risks. For example, while speaking at the 2016 Machine Learning and the Market for Intelligence Conference, future Turing Award and Physics Nobel winner Geoffrey Hinton advised medical schools to stop training radiologists immediately as it was “just completely obvious”²² that within five to ten years AI would outperform humans at this job. Ten years later, AI is everywhere in medical imaging: at least 76-percent of all AI applications approved by the US government for use in medicine are intended for radiology; however, the number of radiologists increased^{23, 24} and there is no evidence that their reliance on AI is driving down demand for humans with their qualifications. On the contrary, the ongoing shortage of radiologists in the US is considered a national crisis.²⁵

One of the reasons why AI did not spell radiology’s extinction is that radiologists do more than just read images. To begin with, they decide what kind of imaging is needed and why, given a patient’s medical record. Similarly, creative professionals do more than just produce text, visuals, code and sound. The value of their work is in the creative vision and design thinking that guides its execution.

The productivity gains promised by GenAI reside in its potential to replace humans at specific production tasks, not entire jobs. The most promising applications of this technology in the creative industries are those that focus on tedious and repetitive activities, which absorb up to 50-percent of all time spent on creative projects.²⁶ These activities are uninspiring, but necessary to make a project polished and attractive for a client or an audience. The possibilities afforded by automation, however, imply that human creatives have to find new ways to signal creative abilities to the market, as showing off sophisticated output no longer suffices. What continues to set them apart from GenAI is their capacity to articulate why they make particular choices in their projects, given an underlying artistic vision or a perceived societal need. Going forward, it would be advisable for festivals to make more room within their programmes for this kind of commentary.

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New gimmick, same old tropes? Why AI might actually impede bold new work

Emma Dorfman

Performance makers and programmers should either 'get on board' with digital technology or miss out. This is the message told to creatives as of late.

In terms of UK government-backed research and development alone, over £80 million has been invested in the past 4 years (UKRI, 2022, 2025; Arts Council England, 2024) to implore creatives to embed particular digital technologies within their pre-existing practices. In 2025, the Edinburgh Festival Fringe continued its partnership with Anthropic, encouraging registered artists to 'free up' their time or market their show with Claude (Edinburgh Fringe, 2025). And most recently, Arts Council England announced it would be adding 'digital arts' as its 10th supported artform; this, to coincide with recruitment for a 'Responsible AI Tech Champion' (Arts Council England, 2026). As if AI was the only technology under the 'digital' umbrella.

The perception that *generative* artificial intelligence is going to change everything we know about art, aesthetics, and creativity is becoming a well-worn trope. Cultural homogeneity, mass reproduction, and replicability have been gaining a foothold in the performing arts for a while now. Just ask any critic how many recent West End or Broadway shows have not been revivals with big ticket stars or musicals based on pre-existing IP.

This is nothing new: For the past 30 years, our networked society (Castells, 2009) has been making everyone's 'content' and

opinions – personal data – more exposed than ever before. The large scale, rapid mining of such information has only made this process more apparent to the mass public. Shannon Vallor argues that large language model (LLM)-based AI systems: "are constructed as immense *mirrors* of human intelligence. They do not think for themselves; instead, they generate complex reflections cast by *our* recorded thoughts, judgements, desires, needs, perceptions, expectations, and imaginings" (2024, p.2) (emphasis in original).

If we don't like this mirror image, it may be because we do not like ourselves and the world *we have created*. As a dramaturg and digital performance researcher, I worry that performance makers using generative AI are struggling to push beyond this literal realm – biases and all – that threatens the social progress arts and culture promotes.

Additionally, when genAI is cast as a 'stage' for live performance, it replicates, according to Kate Crawford, a "manifestation of highly organized capital backed by vast systems of extraction" (Crawford, 2021, p.18), reaffirming oppressive societal views (which we may well rail against) instead of changing them. Whilst live performance should, indeed, reflect lived experience, it should also seek to transform it.

As experimental venues, festivals should consider how they steer the use of genAI in performance. Is it really effective for artists and affective for their audiences? How is it meant to be 'handled' within festival organisations?

I suggest three major challenges:

1 For Audiences:

'The Erosion of Aesthetic Discernment'

As LLM-based text, image, and video models continue to improve, it is becoming harder to separate reality from artificiality. This differentiating process is what algorithmic theatre practitioner Annie Dorsen and Sam Gill refer to as 'aesthetic discernment' (2024). Within the context of AI in live performance, this will make it more difficult for audiences to distinguish illusion from 'reality', performativity from 'being', and real-time 'liveness' from pre-recorded performance material. Everything will be presented just as it is 'in nature'. There will be no illusory sphere to speak of, no willing suspension of disbelief. Generative AI models' intractable ability to reflect our own realities back to us *may* lead to confrontation, but it will only engender true *reckoning* if artists engineer this into a production.

2 For Performance Makers: Anthropomorphisation

Several festival performances (*AI Campfire*, *Dead Air*, *Improbatics Presents: RoboTales*, *Soulmates (Not) Found*, *Stampin' in the Graveyard*, *The Waiting Room*) have already treated generative AI as character(s) with active agency. This sets a dangerous precedent in light of recent news items: Tools like ChatGPT and Character.AI have reportedly assisted the suicide of two teenagers (Duffy, 2025), and many researchers (Maeda and Quan-Haase, 2024; Chow and Haupt, 2025; Walther, 2025) have grown increasingly concerned over parasocial relationships with AI chatbots. The issue is not the use of genAI applications alone, but rather, our treatment of them as anything more than technical tools that possess no human agency or real cognitive ability.

These Big Tech-perpetrated myths serve the purposes of venture capitalists and economic markets. By staging AI as another 'character', performance makers only reinforce this hype. Rather, creatives should engage with these tools in a way that performatively debunks these myths, emphasising their utterly character-less nature.

3 For Organisations: Ethical Responsibility, or Indirect Promotion?

Three years on from ChatGPT's public launch, several frameworks for ethical AI use have been proposed (Piskopani, Chamberlain and Ten Holter, 2023; Arts Marketing Association, 2024; Khatiwada et al., 2025). If they haven't already, festival organisations may soon be assembling and sharing their own guidelines that consider ethical issues such as IP, disclosure of use, etc. However, for those still deliberating AI use, or, in extreme cases, all-out *refusing* such systems, such a statement might induce a fear of missing out.

Festivals should find ways to incorporate these alternative views when embedding AI into their organisational decision-making, whether this is reflected in staffing, board positions, or public forums or outreach. Additionally, they should consider how their messaging may indirectly promote unbridled AI use as opposed to mitigating ethical risk.

I believe that the job of live performance, arts, and culture is to teach us more about ourselves and our relationship to the wider world.

Although AI can tell us much about ourselves (the best and the worst), in an algorithmic era hell-bent on data extraction, it is ever more vital that audiences think critically about the stories they truly want to see; performance makers, about the narratives they want to confound; and festival organisers, about the messaging behind AI use decisions and disclosure.

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Festival Futures Now: reflections on *FestForward* and making performances with Artificial Intelligence

Dr Vikki Jones

In 2022, researchers from the AHRC-funded Creative Informatics Programme (<https://www.creativeinformatics.org>) conducted a project that explored how participatory futuring (Kozubaev et al., 2020) and speculative design methods (Mitrović et al., 2009) support the imagining and implementation of equitable and sustainable approaches to digital technologies and data in the Edinburgh and South East Scotland region's festivals.

The project produced a fictional, speculative cultural magazine, *FestForward* (Jones et al., 2022), set in 2030, designed to stimulate conversations about possible and preferable festival futures (Elsden et al., 2023). An extensive and playful work of design fiction, the magazine was developed through in-depth interviews and a series of participatory workshops with festival practitioners. Participants responded to various 'provotypes' – imagined scenarios developed by the research team to act as starting points for articles for the magazine – and wrote headlines and story outlines that were edited to create the final magazine artefact.

In our workshops, we presented the provotype Culture.ai, an AI agent that supports scriptwriting. Rather than allowing the AI to write a script from scratch, the exercise showed a conversation where the tool acted as a collaborator, responding to writer queries and making suggestions about things like character names, soundtracks, and even haircuts. We spent time asking questions and offering provocations about the implications of AI for festivals

and specifically performance-makers. We considered biases and tropes in the data Culture.ai might be trained on – from the challenges of historical texts to bias inherent in today's technologies – but also whether these systems might detect and challenge these biases too.

The headlines suggested by participants highlighted questions included:

“Art versus content – is tech removing the humanity of creativity”

“Culture.ai cured my writer's block!”

“Culture.ai shares 25% of revenue for providing 'key plot points' in new TV adaptation of EdFringe theatre show”

“Top 10 character names for 2030 announced”

“Morag's edgy buzzcut is the look of the season!”

“I miss those terrible shows you choose on a whim' – audiences be-moan how AI makes everything 'good'”

Today, despite rapid adoption and advancement of AI systems since, we still see the issues and tensions that remain at the heart of the relationship between performance-making, festivals and AI. While the use of generative AI may support the writing process, the core belief that creativity is a human practice and condition is challenged by introducing these tools into creative production.



Festivals and performance-makers can be part of a response that might include experimentation and adoption but can also leave space for resistance.



While human creativity is based on remixing and reinvention, the introduction of AI into this process, some participants felt, takes this one step further. Suggesting the most pleasing character names through large language models or images through generative AI makes visible tensions between humanity, authenticity and popularity. How should we feel about AI-supported work that enacts sanitisation or compromise over a story to increase the likelihood of commercial success and visibility?

The headlines also raise the question of authorship and who any success – critically and economically – belongs to. When performances are co-produced by AI, can these systems expect to share revenue? How do copyright, licensing, open access and notions of commons operate when performances are created by or with systems based on others' outputs, and where permissions for the collection of that data may not have been obtained?

The final headline points to perhaps one of the most exciting, and most human of experiences in attending a festival. The idea that bringing people and performances together in a space – physical or digital – also creates serendipity and opportunities for discovery. While AI technologies and algorithms may base their recommendations on finding points of similarity, rather than embracing opposites and coincidences, festivals' programmes have the capacity to make room for difference. In one place, at the same time, festivals can be using

and experimenting with AI, but also responding to, critically challenging and resisting its integrations into creative practice, offering multiple perspectives on its intersections with human, social, cultural and economic values.

Since this research took place, we have seen the rapid integration of AI tools and technologies into our lives, not just into creative practice but into all aspects of daily experience. Our research area focused on performance-making with and by AI, rather than on the operational support for festivals that AI might provide but there are, of course, challenges and opportunities associated with all aspects of festivals' programming and production.

This work was conducted in the year of ChatGPT's 2022 public release (Finney et al., 2025). Today, our imagined Culture.ai's capabilities are modest and mainstream and perhaps reflect our naivety. But revisiting this work highlights that open questions about the relationship between human creativity and automated technologies remain.

These questions are an opportunity. Festivals and performance-makers can be part of a response that might include experimentation and adoption but can also leave space for resistance. To explore AI tools in all aspects of festivals making, production and presentation is to include thoughtful, nuanced, plural and inclusive perspectives, and festivals can continue to do that with, and without, AI.

> Acknowledgements

Creative Informatics was a partnership between The University of Edinburgh, Edinburgh Napier University, Creative Edinburgh and Codebase. It was funded by: the Creative Industries Clusters Programme managed by the Arts & Humanities Research Council; the Scottish Funding Council; the Data Driven Innovation Programme of the Edinburgh and South East Scotland City Region Deal; and the UK Government Department for Culture, Media and Sport.

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SOME QUICK THOUGHTS

Beyond Human-in-the-Loop: Reimagining AI for the Edinburgh Festivals

Dr Hajar Mozaffar

Artificial Intelligence (AI) is no longer an emerging prospect; it is embedded across sectors – from predictive diagnostics in healthcare and algorithmic risk modelling in finance to recommendation systems in media and automated content generation in marketing. Across these domains, organisations have learned a common lesson: AI does not simply enhance efficiency; it reshapes organisational practices, enables new forms of value creation, and can trigger business model and ecosystem-level transformation. The Edinburgh Festivals therefore face not merely a technical challenge but a socio-technical one: how can AI be integrated to enable innovation and capability development while safeguarding artistic integrity, creative autonomy, and public trust?

A useful distinction is between human-in-the-loop and human-through-the-loop AI governance. Human-in-the-loop approaches position people as supervisors who review algorithmic outputs. While necessary, this can be insufficient. In healthcare, for example, if clinical AI systems were designed to require doctors merely to “sign off” algorithmic recommendations, this could foster automation bias and professional deskilling. Similarly, in recruitment, uncritical reliance on historical hiring data could reproduce structural inequalities embedded within those datasets.

Human-through-the-loop governance goes further. It requires that humans shape AI systems throughout their lifecycle – from problem

framing and data selection to deployment and ongoing evaluation and adaptation. It foregrounds institutional purpose and professional judgement rather than retrofitting ethical oversight after implementation. For festivals, this approach is essential not only to mitigate risk but to ensure AI contributes to organisational transformation and expanded cultural value.

In festival curation, AI can analyse cultural datasets, surface emerging creative networks, and help identify underrepresented artists. Generative systems are increasingly used across music, visual arts, and performance. Yet such models often reproduce dominant patterns embedded in their training data. Without strong curatorial oversight, AI may narrow rather than broaden diversity. Human creativity – interpretive, situated, and often disruptive – must therefore precede and frame AI outputs. AI can expand exploration, but decisions about which voices to amplify and which cultural dialogues to foster remain fundamentally human responsibilities.

Beyond curation, AI enables capability reconfiguration and business model innovation. Predictive analytics can enhance forecasting, scheduling, and resource allocation. More strategically, AI can generate deeper audience insight, support hybrid digital-physical experiences, and reshape partnership models across the cultural ecosystem. As in other sectors, such shifts can redefine value propositions rather than merely optimise existing processes.

“ The Edinburgh Festivals face not merely a technical challenge but a socio-technical one. ”

However, predictive systems create path dependencies: once embedded, they shape strategic priorities and decision logics. Public sector experience shows that optimisation criteria can gradually influence organisational missions. Festivals should therefore treat AI as an evolving socio-technical partner rather than neutral infrastructure. Interdisciplinary oversight and periodic algorithmic review should accompany deployment to ensure alignment with long-term cultural objectives.

Audience engagement illustrates both opportunity and risk. Personalisation engines – common in streaming and digital retail – can enhance discoverability and accessibility while enabling new forms of participation. Yet over-personalisation fragments shared cultural experience and risks creating ‘filter bubbles’ that reinforce preference rather than foster serendipity. Festivals depend on unexpected encounter and collective experience. AI systems should therefore be calibrated not only for relevance, but for diversity, surprise, and communal discovery.

The strategic question is not whether to adopt AI, but how to integrate it in ways that enable responsible innovation and sustainable value creation.

First, AI adoption should be viewed as an ongoing innovation trajectory rather than a one-off project. Capabilities and societal expectations will evolve; implementation must therefore be iterative and reflexive.

Second, governance must be embedded from the outset. Cross-festival structures combining artistic leadership, technical expertise, ethical oversight, and audience representation are essential to maintain alignment with institutional values.

Third, institutional AI literacy is critical. Organisational capacity will determine whether festivals remain through the loop – actively shaping technological trajectories and new value propositions – or become dependent on external vendors and opaque systems.

Fourth, transparency in AI use must be maintained. Clear communication about where and how systems are deployed sustains trust in cultural institutions.

Ultimately, the Edinburgh Festivals exist to convene human creativity and shared cultural experience. AI should augment these qualities, not standardise or supplant them. The goal is not to automate the festivals, but to design AI integration that strengthens artistic experimentation, reconfigures organisational capabilities, and enhances long-term public and cultural value.

By remaining through the loop – shaping purpose, interrogating assumptions, and aligning AI with cultural mission – the Edinburgh Festivals can harness technological innovation to generate new forms of cultural and ecosystem value while safeguarding the human creativity that defines their global significance.

GenAI at the Edinburgh Festivals

Burkhard Schafer

Many of us feel an instinctive unease when facing the prospect of robot-generated art. In "Look to Windward", Iain M Banks presents a dialogue between the renowned Chelgrian composer Ziller and the powerful AI (a "Mind") that oversees the habitat where Ziller has sought refuge:

'If you tried, if any Mind tried, could you impersonate my style?' the Chelgrian asked. 'Could you write a piece – a symphony, say – that would appear, to the critical appraiser, to be by me, and which, when I heard it, I'd imagine being proud to have written?'

The avatar frowned as it walked. It clasped its hands behind its back. It took a few more steps. 'Yes, I imagine that would be possible.'

'Would it be easy?'

'No. No more easy than any complicated task.'

'But you could do it much more quickly than I could?'

'I'd have to suppose so.'

'Hmm.' Ziller paused. The avatar turned to face him. Behind Ziller, the rocks gently beneath their feet. 'So what,' the Chelgrian asked, 'is the point of me or anybody else writing a symphony, or anything else?' [...] What would be the point for those listening to it?'

'They'd know it was one of their own species, not a Mind, who created it.'

'Ignoring that, too; suppose they weren't told it was by an AI, or didn't care.'

'If they hadn't been told then the comparison isn't complete; information is being concealed. If they don't care, then they're unlike any group of humans I've ever encountered.'

Twenty-five years after this novel was published, what was visionary then is now approaching reality, as data-hungry generative AI systems raise major concerns for the creative industry.

Writers and musicians fear that AIs could imitate their distinct styles when producing new works, singers worry about their voices being misused, and actors – particularly extras and background artists – are anxious that the single recording they made under contract might be reused by AIs in future films. All of them are worried that what makes them unique as creatives can now be copied and reproduced effortlessly, often at a seemingly negligible (visible) cost.

Legal responses have varied in terms of effectiveness and direction. In the UK, there are proposals in England and Scotland to establish new property rights in certain digital objects, including NFTs, which could create new income streams for artists. At the same time, plans to amend copyright law tend to favour large technology firms and their interests – asking artists to "opt out" of data scraping, but with uncertainty about the technologies and standards for this opt-out, what the consequences are for ignoring it, and the problem that any illegally copied online material will also be sufficient for AI training, sidestepping the original creator's wishes.

“ **But the same conflict also fosters an environment conducive to experimentation, benevolent innovation, and exploration.** ”

Festivals are part of this debate as they attempt to establish their own rules, which range from banning to supporting AI-generated work, or, as in *Look to Windward*, requiring transparency obligations or similar restrictions on AI system use to leave the final aesthetic judgement to the audience.

But the same conflict also fosters an environment conducive to experimentation, benevolent innovation, and exploration. The Fringe has already gained experience with the AI-based “Artificial Intelligence Improvisation” show, where human comedians perform jokes created by robots as an experiment to see if algorithms can elicit laughter from audiences.

What might the future of creative AI at the Festivals look like? The experimental approach of the “Artificial Intelligence Improvisation” points in several directions. A key aspect of the experiment was to test humans’ responses to jokes, but they played a very traditional role as passive

recipients. What if the audience played a more active role, for instance, as providers of data that the AI is trained on, to create more radically collaborative shows where the power of the AI is to bring people together for a shared purpose? How much recognition would they want, and how could it be made clear what they contributed?

What if they, in turn, used their AIs (on their smartphones, for example) for collaborative work – are there new ways to acknowledge their contributions, or ways to block them if and only if (some, the majority of etc.) other participants object?

Collaborative and highly transparent events like these not only allow us to jointly establish new “ground rules” for the responsible and genuinely innovative use of AI, a use that safeguards the legitimate interests of all involved. They can also guide legislators grappling with the technology, helping them avoid pointless dichotomies between “innovation” and “IP rights”.

The Future of Festivals

Ewelina Lacka

Conversations about the transformative nature of Artificial Intelligence (AI) are taking place across ALL industries, sectors and business functions. Much has been said about the 'bright side' of AI. The 'dark side' was also debated. As Festivals join the conversation, considering the bright and dark sides, the question that needs to be answered is whether Festivals can refrain from partaking in AI transformation?

One thing that has to be clear from the start is that if Festivals embrace AI, it will not take over the festival experience or result in job losses. Instead, with a focus on effectiveness and efficiency and utilising data for data-driven insights, AI will aid the festival experience, enabling festival staff to fully focus on aspects AI is unable to substitute – creativity being the main one.

From the perspectives of logistics and festival organisation, AI holds great potential to minimise waste, improve resource efficiency and make planning effortless. Utilising past festival data, AI can predict attendance numbers, manage resources and logistical challenges, and automate event scheduling. It can coordinate staff availability, workload, and skills to optimise their schedule and match them to specific events. With effective logistics and scheduling, errors can be minimised, unnecessary expense avoided, and support from staff maximised.

AI can also aid management. With AI insights, festival organisers can understand their audience better, including their likes and dislikes, which can aid strategic planning and result in effective marketing and promotion. Combining festival goers' profile data with other data sources can reveal new behavioural patterns and emerging trends. Those deep insights can help festival organisers to make more informed creative decisions. Due to its

predictive capabilities, AI can reveal how the preferences of festival goers change and evolve over time- information critical to ensure that festivals will remain relevant and attractive in the future.

From the perspective of festival goers, the benefits of AI are even greater. With AI, booking and checking processes can be simplified. Based on the user profile, festival goers can receive personalised information in the form of updates and recommendations when needed. This is because AI is capable of delivering dynamic yet highly personalised information at the right time. This information can include recommendations of new or nearby events, which take into consideration users' individual interests, location, and budget, among others. This not only supports the festival goer experience, but also allows to upsell events fully maximising engagement opportunities. Personalised information is particularly important for festival goers who require additional support due to special or accessibility needs. With AI, festivals can become truly accessible spaces for all to enjoy.

With the AI, festival goers have an opportunity to ask questions and make queries which can be answered instantaneously by chatbots. They can provide feedback that festival organisers and performers can act on instantaneously. Addressing issues, making adjustments, and improvements instantly ensures satisfaction and protects the festival's reputation long term.

For all this to be possible, Festivals need to adopt explainable AI and focus on developing AI literacy. Effective data management is also necessary. While the implementation and adoption of AI by Festivals may not be straightforward, can Festivals afford the future without AI – probably not.

The boring side of AI might be the most useful side of AI for Edinburgh's Festivals

Joshua Ryan-Saha

The most visible uses of AI in festivals are also the most debated. AI-generated artwork on promotional materials. Algorithmically 'composed' music. Chatbot recommenders trained on dubiously sourced review data. These get the attention. They are not the use cases that will make these organisations work better.

I am more interested in the long, hard slog of workflow redesign.

Edinburgh's Festivals operate in a seemingly-permanently finance-constrained environment. Small teams do enormous things on tight margins. The Fringe alone processes hundreds of thousands of ticket transactions across a compressed window. The Edinburgh International Festival, the Edinburgh International Book Festival, the Edinburgh Art Festival, the Edinburgh Jazz & Blues Festival – each runs complex operations involving ticketing, refunds, scheduling, venue allocation, artist logistics, accessibility requests, and volunteer coordination. Much of this work is repetitive and time-consuming. It eats the hours that staff do not have. And it is exactly where AI has moved furthest, fastest, and most quietly.

The conversation about AI is often stuck on chatbots and content generation. Meanwhile, the underlying technology has shifted. We

are now in the era of AI agents – systems that can take a task, interpret its context, make decisions within defined boundaries, and move work forward across multiple steps with minimal supervision. An agent is a process that runs.

An agent can receive a refund request, check it against the cancellation policy, verify the transaction, draft the response, and route it for human approval. It can monitor volunteer shift gaps, cross-reference availability, and propose reallocations. It can extract structured data from a photographed invoice using multi-modal capabilities (reading the image, parsing the fields, entering them into a finance system).

But here is where most AI enthusiasm falls short: it focuses on what the technology can do and skips over what the organisation needs to do first. The starting point is not adoption: it is mapping.

Map your workflows at the individual level first. What does a box office team member actually do when a ticket transfer request arrives? What are the steps? Where does the information come from? Where does it go? Then do the same at team level. Then, maybe, across organisations? Festivals share venues, share audiences, and share many of the same operational pain points.

“ Every automated workflow needs an explicit boundary between machine execution and human judgement. ”

Once you have that map, you can make intelligent decisions about where to deploy capability. And critically, you can design the handoff points. Every automated workflow needs an explicit boundary between machine execution and human judgement. Where is the AI strong enough to run autonomously? Where does a human need to check before the work moves forward? Where does a human make the final call using the AI's output as input? The real design challenge is getting the sequencing of human and machine work right, so that trust is maintained, errors are caught.

One more thing that changes the picture: the barrier to building these systems has dropped dramatically. Tools like Anthropic's Claude Code and Claude Co-Work now allow small non-technical teams to prototype and deploy internal workflow tools in days. Eventually, this could shift who gets to solve operational problems.

None of this works without structured, reliable data. If the underlying data is inconsistent, automation scales the inconsistency. Data quality is the foundation that everything else depends on.

Edinburgh's Festivals do not need AI to be more creative. They are already the most creative organisations in the country. They need AI to take the drudgery off the desk so their people can do what they are brilliant at.

This article was developed with the assistance of Claude (Anthropic) for editing and idea generation. Joshua is happy to discuss how he uses AI tools in his writing, feel free to get in touch.



**AND FINALLY
SOME THOUGHTS
FROM ACROSS
THE OCEAN**

Broadway Lost the Search Era. Festivals Could Lose the AI Era.

Janette Roush

Theatre and live ticketed events are at a familiar crossroads right now. In the late 1990s and early 2000s, industries like Broadway had the opportunity to make their productions discoverable and bookable on the internet, but for many years that opportunity was ceded to third-party resellers. I know because I was there, working at Theatre Direct International when we were acquired by Broadway.com in 2000. I watched the industry fragment while brokers aggregated.

We are at the same crossroads with AI. In the early days of AI, it's the third-party channels like Stubhub who have relationships with OpenAI and are becoming embedded in those tools in places like apps inside ChatGPT. The opportunity for live events and theatre is very similar to the internet opportunity: How can they use structured data, schema, APIs, or MCP servers to make information about their products directly accessible to AI systems? And how can they make sure those products are bookable through those systems once agentic payment protocols are established?

If decisive moves aren't made to speak with our own voice to AI systems, it will be the resellers who gain the credibility and become the pass-through for both information and bookings. I've seen this happen once already.

How the search era played out on Broadway

I joined Theatre Direct International in 1998 as a Marketing Coordinator. TDI was an authorized wholesaler and group sales agent owned by

Cameron Mackintosh (the producer behind *Les Miserables*, *The Phantom of the Opera* and *Miss Saigon*). We sold blocks of tickets to tour operators and charity fundraisers. We were the fulfillment house for the mega-musicals that ran on tourist traffic.

This was the early digital era, and the Broadway ticketing landscape was complicated. Shows in Shubert and Jujamcyn houses used Telecharge. Nederlander shows used Ticketmaster. It was difficult for tourists to comparison shop, and guidebooks told international travelers to purchase their tickets at the TKTS booth, which hurt advance ticket sales for shows and wasn't possible for in-demand productions like *The Lion King*. TDI solved that problem for the travel industry – we aggregated inventory and sold it at net rates to travel agents.

One of my markets was Japan, which was an emerging source of international visitors to New York. At the time, credit cards weren't widely used in Japan, and the standard ticketing sites couldn't process international cards. TDI created arrangements with Japanese tour operators so that shows like *The Lion King* were part of a consumer's NYC package, purchased in cash installments at their local travel agency. The primary ticketing systems couldn't solve this because they couldn't process credit cards from outside the United States. We could, because we had the wholesale relationships.

This was an era when people at international travel trade shows still asked, sincerely, whether the internet was going to last.

Then in September 2000, the company was acquired by Hollywood Media Corporation, the founders of the Sci-Fi Channel. Their vision was to own the internet's most valuable "vanity URLs" – Hollywood.com for movies, Broadway.com for theatre.

The business model they built was straightforward:

- TDI's wholesale contracts (authorized inventory) + Broadway.com domain (the most intuitive URL) = instant transactional powerhouse
- We were a content empire. Broadway.com employed journalists, photographers, video crews. All that content was a "loss leader" that fed SEO.
- When someone searched "Broadway tickets" or "Broadway shows," Broadway.com ranked #1. The individual shows didn't. The nonprofit League of American Theatres and Producers didn't.

Broadway.com became the aggregators solving the consumer's "search cost" problem while the primary market stayed siloed.

Service fees on tickets was justified as "concierge service" while we were monetizing the industry's lack of a unified platform.

Why didn't Broadway fight back? Two reasons:

Content versus transaction. Telecharge and Ticketmaster were transactional utilities.

We were a media brand. If a tourist searched "Who's starring in *Wicked*?" they landed on Broadway.com. Once there, the "Buy Tickets" button was everywhere.

Fragmented stakeholders. Every Broadway show is an independent LLC focused on their weekly operating costs and ticket revenue. It was difficult for producers to focus on an industry-wide collaborative effort rather than spending their limited promotional budgets on their own productions, and this was

exacerbated by three theatre owners using two competing ticketing systems. The Broadway League had been convening meetings about creating an industry website to promote Broadway. The story I heard was that the meeting happening the day the Broadway.com acquisition was announced ended early. The industry's window to build its own platform had just closed, and everyone in the room knew it.

Then in 2007, New York State eliminated price caps on ticket resale. Hollywood Media's SEC filings literally celebrated this: "We have increased ticket pricing flexibility following the adoption of legislation in New York during 2007 that eliminated price caps on service fees."

In December 2010, Hollywood Media sold the Broadway Ticketing Division to Key Brand Entertainment (now John Gore Organization). John Gore achieved total vertical integration: invest in a Broadway show, produce it, sell tickets via Broadway.com at premium prices while gathering customer data, then route the tour via Broadway Across America to 48 cities.

By the time Broadway acted – the Better Online Ticket Sales (BOTS) Act in 2016, Google AdWords crackdown in 2017 – it was too late. The FTC has brought only one case under the BOTS Act in eight years connected to Broadway ticketing. Legislation is theatre (no pun intended). Technology is reality.

Broadway tried one interesting solution: in 2001, the producers of *The Producers* launched "Broadway Inner Circle," selling premium tickets for \$480 with concierge service. Right diagnosis (we're underpricing, scalpers are capturing the surplus), wrong cure (vertical integration instead of platform aggregation). It collapsed when the stars left. StubHub, founded the same year, built a platform and sold to eBay for \$310 million in 2007.

“ AI could flatten cultural offerings to safe, recognizable choices, erasing the discovery that makes festivals vital. ”

The same thing is happening now

So where does Broadway stand today? Seven separate ticketing systems and no unified API. When AI systems try to answer “What Broadway shows should I see?” they have no canonical source of truth. If they don't invoke search, they will be guessing based on outdated training data, which rewards long-running shows. This problem is magnified for ticketed events outside of major theatre centers; without Wikipedia pages and a large online footprint, smaller shows are algorithmically invisible. While festivals and smaller shows may have websites and social channels, a rise in “zero-click” searches means users get an answer to queries like “What should I see tonight?” without clicking to a website.

Meanwhile, scalpers are moving faster. AI tools bypass CAPTCHAs, generate fake listings, build proprietary integrations. If a scalper makes a ChatGPT plugin that sells tickets to your production before Ticketmaster does, who wins?

What we're building

The playbook for the search era was to own the domain, the content and the transaction. But when AI systems answer a question in a chat thread instead of sending you traffic, the strategy becomes:

- Create a source of truth: structured, machine-readable data
- Meet users where they are instead of controlling where content is viewed
- Become the canonical source that AI systems cite

At Brand USA, we're working on making the United States more discoverable and more bookable by AI systems. That means creating

structured data and machine-readable content that AI can parse instead of scraping a webpage. We call this framework “Destination as a Service.” The idea is that a tourism board's role shifts from being a website you visit to being an infrastructure layer that AI systems query. This framework has three layers:

Information. Events calendars, real-time attraction hours, verified local recommendations, official walking routes. The basics that AI needs to answer “What's open tonight?” with confidence instead of guessing.

Integration. Connect that information to local transport APIs, weather services, crowd monitoring, restaurant reservation platforms. This is where the concierge value lives – an AI that can tell you the subway is delayed and reroute your evening.

Transaction. Attraction tickets, tour bookings, transport passes, event ticketing. The layer where the booking happens through official channels instead of a reseller. This layer could be owned by trusted partners like tour operators and travel agents.

The distribution model matters as much as the data itself. The proposition is to create data feeds that are grounded in truth and far richer than what AI could assemble on its own, and then partner directly with the B2B companies already building AI-powered consumer tools: travel planners like MindTrip, OTAs like Expedia, tour operators and business event planners running their own AI systems who can ingest this content directly. Consumers will eventually plug into these feeds too, through apps in ChatGPT, through MCP servers, or through some capability that hasn't been built yet. The point is to feed the pipeline directly instead of publishing data and hoping AI finds it on its own.

For live entertainment, there's a deeper question that I find more interesting than the infrastructure: How can we categorize content to match consumer taste? AI can handle logistical friction like subway routes, accessible pricing or optimizing a schedule. But how will we include enough information about brand new theatrical productions and events to make a consumer confident they should invest their time and money in the experience?

What this tells us about Festivals and AI

The patterns from Broadway's experience suggest a few things for festival ecosystems navigating the same transition.

The first is that waiting for the perfect centralized solution is the most dangerous option. When an industry is fragmented, the instinct is to form a committee and build the ideal shared platform. But by the time meetings conclude and vendors get selected, AI will have already encoded whatever information it could find, accurate or otherwise.

The second is that festivals need to make themselves aggregatable. AI pulls from Wikipedia, YouTube, third-party calendars, trade press. A travel blogger's post can outrank an official festival page in an AI system's source rankings. The technical lift to fix this is modest: JSON-LD feeds with basic event data like name, venue, dates, status and ticketing links. The organizational will to implement it across fragmented systems is the hard part.

The third, and the one I keep coming back to, is serendipity. If festivals make their data machine-readable and stop there, AI will default to popularity. Long-running hits get recommended. New work, experimental pieces, emerging artists, anything without a substantial online footprint, becomes invisible. AI could flatten cultural offerings to safe, recognizable choices, erasing the discovery that makes festivals vital. How do you make AI

recommend the thing that has no data yet? The thing you didn't know you wanted? I don't have a good answer for this. But it's the question that matters most for events such as the Edinburgh Festivals.

There are imperfect answers worth exploring. A new show's structured data today is title, venue, dates, price. That tells an AI system nothing about why someone should take a chance on it. What if the data feed included thematic tags, tone indicators, connections to known work, the kind of information a knowledgeable friend would share when they say "trust me, go see this"? That's hard to standardize, but it's the kind of richness that would actually help. Edinburgh already has an infrastructure of reviewers, curators and festival programmers who make these taste judgments every year. The question is whether that curatorial knowledge can be encoded in structured data and distributed through B2B channels before AI defaults to recommending whatever has the biggest online footprint.

The Pattern

Broadway's experience suggests that when a new discovery channel emerges, the distribution of power within it gets determined quickly. The organizations that are already publishing structured data, feeding third-party ecosystems and building direct relationships with AI platforms are the ones defining how the next generation discovers live performance.

The difference between 2000 and now is that we have the example of what happened last time. The pattern is visible. Whether seeing it earlier changes the outcome is up to the people running festivals and theatres right now.

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Dr Caterina Moruzzi is Chancellor's Fellow in Design Informatics at the University of Edinburgh, where she works at the intersection of philosophy, computational creativity, and human-AI interaction. With a background in philosophy and music, her research examines how AI is reshaping creative practice, cultural production, and public understanding, with particular attention to agency, authenticity, provenance, and attribution in AI-mediated cultural production. At Edinburgh, she leads the Creativity, AI, and the Human research cluster at the Edinburgh Futures Institute. She is Fellow of the UKRI AHRC/BRAID project CREA-TEC, in partnership with Adobe, and contributes to major UKRI programmes including CoSTAR Realtime Lab and DECaDE. She regularly collaborates with industry, cultural institutions, and policymakers on the future of responsible creative AI.



Michele Piazzai is a computational social scientist interested in problems of organisation, strategy, and decision-making, particularly in the context of creative product markets. He joined the University of Edinburgh Business School in 2025 after serving as Assistant Professor of Innovation at the University of Amsterdam (2017–2020) and Assistant Professor of Management at Carlos III University of Madrid (2020–2025). His research has been funded by the Dutch and Spanish governments and published in journals across management, sociology, philosophy, cultural heritage, and computer science.



Emma Dorfman is a doctoral researcher and dramaturg pursuing a collaborative PhD between the University of Edinburgh and Traverse Theatre. Her current research explores digitally site-specific theatre – performances developed and staged in digital sites – and traverses the areas of performance studies, design, and human-computer interaction. She is also the Digital Theatre and Performance Subject Editor for the Routledge Performance Archive and an Advisory Board Member for Digital Theatre+. As a practitioner, she was previously the Resident Dramaturg for New York-based documentary theatre company, Life Jacket Theatre, and has worked as a dramaturg at the Lucille Lortel Theatre and The Attic.



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Burkhard Schafer joined the School of Law of the University of Edinburgh in 1996, and became its Professor of Computational Legal in 2010. His main field of interest is the interaction between law, science and computer technology from doctrinal, comparative and legal-theoretical perspectives.



Ewelina Lack is a Reader in Digital Marketing & Analytics. Prior to joining the University of Edinburgh, she was a Lecturer in Marketing at the University of Glasgow and Strathclyde University. Ewelina's research provides insights into major research streams in digital marketing. She is particularly interested in digital technologies adoption and use, as well as insights deriving from data that is the result of these technologies use. Ewelina's published work examines the impact of digital technologies on consumers and businesses in various settings (e.g. Business to Consumers (B2C), Business to Business (B2B), Higher Education, and tourism); her data-driven research provides insights into consumer online behaviour and informs business decision-making. She has served as a Guest Editor for three Special Issues with leading international journals such as *Industrial Marketing Management*. Her presented works have been well received at various national and international conferences as well as at research seminars in the UK and internationally.



Joshua Ryan-Saha is Director of Tourism, Travel & Festivals at the Edinburgh Futures Institute, University of Edinburgh, where he leads the Travel Tech Innovation Hub and the Traveltech for Scotland network. He chairs the Data, AI & Technology workstream on Scotland's Tourism & Hospitality Industry Leadership Group and leads the Scottish Tourism Data Partnership. His work sits at the intersection of academia, government, and industry – translating emerging technology into practical policy and investment agendas. He has delivered AI and tourism workshops to over 1000 professionals across Europe, the USA, Asia-Pacific, and beyond.



Janette Roush is SVP, Innovation and Chief AI Officer at Brand USA, the United States' national destination marketing organisation, where she leads AI strategy across consumer promotion, trade engagement, and operations. Before moving into tourism, she spent over two decades at the heart of Broadway including leadership roles at Broadway.com and AKA, where she shaped marketing campaigns for Tony Award-winning productions including *Harry Potter and the Cursed Child*, *The Band's Visit*, and *Once on This Island*. She subsequently served as Executive Vice President at New York City Tourism + Conventions, overseeing the city's post-pandemic tourism resurgence. Recognised as one of HSMIA's Top 25 Extraordinary Minds for 2025, she holds an MFA in Performing Arts Management from Brooklyn College and is an expert advisor on the European and US cohorts of the AI Opener for Destinations programme.



Published April 2026

This publication has been made possible with the support of
EventScotland, part of VisitScotland.