

Patterns in Practice



Cultures of AI practice in the arts

A work in progress report from Patterns in Practice:
cultures of data mining in science, education and the arts

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December 2023

Background

Algorithms that identify patterns in, and learn and generate patterns from, datasets play a growing role in practice across sectors. While many data scientists believe these 'AI' (Artificial Intelligence) systems and technologies are likely to deliver new insights and efficiencies, some practitioners view them as overhyped and with the potential for negative material consequences. These perceptions are shaped by practitioners' beliefs, values and emotions. Understanding these factors is crucial to unravel the adoption and application of such algorithmic technologies in different contexts, including how practitioners engage with them. Ultimately, these beliefs, values and emotions shape practitioners' ethical considerations and preferences in using - and not using - such technologies. This work in progress report shares early findings from research we conducted exploring these issues with arts practitioners working in the arts sector in England.

Who we are and what we did

Patterns in Practice is a research project funded by the Arts and Humanities Research Council (AHRC). It explores how practitioners' beliefs, values and emotions interact to shape how they engage with and in data mining and machine learning, techniques sometimes labelled as forms of AI.

We examined these cultures of practice across three contrasting contexts: pharmaceutical drug discovery, learning analytics in higher education, and arts practice. Here, we report early findings from the arts practice case study.

Through our research, we aim to develop a foundation for engaging people that work with data mining and machine learning - or the results of such computational processing - in critical and reflective dialogue. Our working assumption is that if we want to contribute to the development of more responsible cultures of computational practice, we first need to understand these cultures.

For the arts practice case study, we carried out interviews and focus groups with 14 arts practitioners to explore their perspectives. Included in these practitioners were artists who engage with such technologies in their practice, curators, and arts organisers in England. The artists came from various disciplines, such as, the visual arts, music, performance, installation, and combinations thereof. Here we report on three narrative themes from our thematic analysis.

We use the term AI throughout to refer to a range of tools, technologies and systems that are based on algorithms that identify patterns in, and learn and generate patterns from, datasets. This term is commonly used in the sector.



1. Navigating a balance between AI hype and artistic authenticity

The wave of excitement which currently surrounds the application of machine learning extends its reach to the arts, through the introduction of AI systems which can generate images from text descriptions, such as DALL-E. Many of the arts practitioners that we spoke to acknowledge the cyclical nature of the hype surrounding AI and so approached AI technologies with scepticism. These practitioners have already witnessed similar fads and trends come and go, along with their promises to revolutionise the creative landscape. Consequently, many arts practitioners have developed a critical mindset when faced with the hype surrounding emerging technologies like AI. One artist said:



And I guess it can also just be down to fashion, wanting to be supporting cutting edge artists who are pushing things forward. Which is really strange 'cos it feels like cutting edge ideas have sort of run out of ideas really. Like, VR and AI, if like twenty years ago you'd said VR and AI will be the future in twenty years' time it would just be laughable. [...] So I guess it is like a hyped cycle thing as well. It's just what people are doing, yeah [laughs]."

— *artist¹*

While some participants argued that AI now offers new tools and techniques to push artistic boundaries, there is a growing concern among some artists that excessive reliance on AI-generated creations may dilute the creativity that defines their work.

This scepticism drives some artists to delve deeper, in order to better understand AI's capabilities and limitations, whilst ensuring that their creative processes maintain an authentic connection to their unique perspectives. Another artist notes:



Obviously, there's a lot of hype around machine learning and AI, so for me it's important to kind of be authentic whilst I'm working with these tools and technologies, and not just, yeah, not just kind of jump on a bandwagon as it were. "

— *artist*

This tension between the desire for authenticity and the hype around AI compels artists to strike a balance between harnessing the benefits of AI while preserving the essence of their artistic visions. Artists, who strive to convey unique perspectives through their creations, often resist the claim by AI and Big Tech advocates that algorithms and machines can replicate human creativity, as expressed by one AI and arts organiser:



So my personal opinion I think [...], it's very difficult to combine something so technical with a more, um, with sort of creative thinking. And that is because the way that these systems are structured to work, they have a very different starting point than the creative process."

— *AI and arts organiser*

¹This quotation was from Alex McLean who requested to be identified.

In a nutshell

- While recognising the potential of AI to expand artistic possibilities, most of the artists in this study remained cautious about its transformative power and potential to replace the inherent human element in their work.
- The majority of artists we interviewed were not interested in "generating patterns" or pursuing purely commercial work, and they did not feel threatened by job losses. However, some arts practitioners did express concerns that AI could potentially impact more commercial artists and creators by taking their jobs.

2. Call to improve human-machine collaboration

The interviews and focus groups with arts practitioners unveiled some challenges arising from the intersection of computing science engineering, and the arts. It became apparent that some artists lacking a tech background encountered difficulties in collaborating across these domains. To understand how algorithms work, artists need to grasp the language, tools, and perspectives through which these algorithms view the world. This knowledge primarily resides within the realm of computing and specifically, data science and software engineering. Establishing meaningful and long-term collaborations between artists and computer scientists proved challenging due to a noticeable and frustrating imbalance in resources, compensation, and skills. This is highlighted by participants in the study:



I would say the main challenge is that – that there is a gap between advanced engineering and developing artistic projects. And bringing these two very different worlds together.”

— *AI and arts organiser*

Many artists believe that increased funding, training, and collaboration between artists and computer scientists is necessary.

While a few arts practitioners noted that the hype around AI can help secure funding for AI-related work, the lack of funding for artists remained a common concern for most participants, including curators and arts organisers. One arts practitioner expressed this frustration, stating:



So that's the piece of research that [we] did over the summer. And it was very limited in scope, because these things are very expensive. And we – and this is an art project, not a well-funded science project.”

— *artist*

In a nutshell

- Artists recognise the potential for AI to enhance their creative output but highlight the need for improved collaboration, funding, and understanding between the arts and computing fields.
- Artists aim to maintain their artistic values and navigate the risks of the automation of arts practice in a way that aligns with their unique perspectives and personal values and beliefs.

3. Tactics of everyday resistance

Many artists we spoke with both actively use AI technology in their arts practice and engage in tactics of everyday resistance to the potential full ‘automation of culture’. They have been employing various strategies, such as emphasising the use of small data, adopting an open source approach, staying true to their artistic visions despite engineering barriers, and embracing critique as a form of AI practice. Their explanations highlight their perspectives:



And, I know what’s going on with the models, so I can tweak the hyperparameters, so it’s kind of where do you pick your battles basically, where do you feel comfortable in relinquishing aesthetic control, how much do you let the machine do, how much are you actually involved in that creative process? So for me there’s a distinction in terms of artists working with machine learning. You know, some artists are learning how to code and create their own models. Some artists are collaborating with technologists. Some artists are using pre-trained models. And it’s where you feel kind of ethically and creatively comfortable really with what you’re producing I’d say. ”

— artist



And, you know, there is a small but ongoing sort of open source movement, and I think that might – you know, with any luck, these technologies – open source versions will emerge, that we can feel good about using.”

— artist



I was trying to use the technologies to do something different. So I think that was probably the closest I’ve come to being critical from that – in a practice perspective. ”

— artist

The artists who expressed a preference for working with small data, their own data, or both, rather than relying on large-scale datasets, often cited ethical or environmental considerations. These concerns included data privacy, authorship, carbon dioxide emissions resulting from the extensive energy consumption of data collection and AI training models, and the potential exploitation of vulnerable communities through data extraction.

These findings highlight the artists' perspective on data, not merely as a tool, but as a material that intertwines with the artwork and the artist's identity.

In a nutshell

- Arts practitioners feel a responsibility associated with the artwork they create and navigate the tension between perceiving it as data or as an artistic creation.
- As artists using AI tools, they are aware of the potential implications for creative practice discussed above. Consequently, these practitioners face a range of ethical considerations which they carefully navigate to make informed decisions about incorporating them into their work.
- In the absence of established ethical guidelines for this type of artistic practice, the personal values, beliefs and emotions of each arts practitioner play a crucial role in shaping their approach and practice.

What's next?

Data analysis and findings sharing: Over the coming months, we will continue analysing the data we have collected and an end of project report for each case explored will be published in mid 2024. We will also be working on a number of papers that will be submitted to academic journals for publication in 2024.

Practitioner and public dialogue events: To facilitate the sharing of knowledge, in late 2023/early 2024 we will run a series of dialogue events to engage practitioners and the public to reflect on the findings in the three contexts explored.

Artist residency: We have partnered with the Watershed's Pervasive Media Studio to host an artist in residence, composer and improviser, Craig Scott, to respond to emerging themes across all case studies. The arts residency aims to engage public audiences with our research, and there will be a musical performance and sharing of his human-machine learning response in a hybrid format in February 2024. Find out more: <https://www.watershed.co.uk/studio/events/2024/02/09/lunchtime-talk-craig-against-machine>

Recent collaboration

Storytelling performance: Data/opium

In 2022, we collaborated with Otis Mensah, musician/writer and the first Poet Laureate of Sheffield, and ENON Films to produce a short storytelling performance in response to early findings of our pharma case study.

The film is available on our website:
<https://lifeofdata.org/site/patterns-in-practice/data-opium/>



Acknowledgements

We would like to thank our participants and our arts partner the Watershed's Pervasive Media Studio for their time and commitment to the project.

For more information about the project and our upcoming events, please visit:
<https://lifeofdata.org/site/patterns-in-practice/>

The support of the Arts and Humanities Research Council is gratefully acknowledged.
Grant number AH/T013362/1.

