

Presentation by  
**Lauren Tucker**

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University of Salford

Lecture  
Demonstration

# *Choreographic Investigations*

# *Aim of Lecture Demonstration:*

Aim: At the end of this lecture, you will be able to create a digital media output using artificial intelligence.

Objective:

- You will engage with a short creative task to create a physical response to some text generated by an AI Language Model.
- You will create ai art that could be used as media in Isadora Lab Processes.
- You will critically reflect upon your over all experience, and outline your biggest learning takeaway from the session.



# *Creative Enquiry*

How can Artificial Intelligence support a multi-disciplinary creative process, idea development and immersive world building?

"Looking forward, the most successful ideas likely won't come from bright thinkers alone but from those best at mindfully steering intelligent machines while remaining firmly in the driver's seat."

— Jan Bieser, Senior Researcher and Speaker, Gottlieb Duttweiler Institute  
(Breuleux, Y., De Coninck, B., & Therrien, S. (2019) p.7)



Figure 1: AI generated Art



# Practice-led research

Kershaw, B. (2009) defines practice-led research as 'works which use creative processes as research methods.'

## Digital embedded in the methodology

**Working with AI to generate visual art or text as a stimulus.  
Working with isadora to explore multiple view points and perspectives.**

## World Building

**Creating dens as pop up worlds within the world of the physical space**

## Phenomenological Storytelling

**Communicating the personal feelings and interpretation of emotions to support the world building process.**

## Improvisation

**Expressing task driven movement to embody thoughts, feelings, energy, sensations, personal experiences and relationship with projection.**



# *Practice as research: World Building- Immersion and Perception in choreographic investigations*

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Exploring the body, the receptivity of senses, embodiment, phenomenology to recreate feelings and emotions to stimulate improvised responses within the hybrid performative worlds.

Immersive storytelling methods, to explore the complex relationship between physical and virtual worlds.

Exploration of digital technologies to inform the creative process, and to build my personal digital literacies to enable the choreographer to dance at the intersection of physical and virtual environments.

Emerging conversations: Is technology a threat or a catalyst to our freedom of human creative expression? Will Artificial Intelligence align with human values?

# World Building

"World Building can serve as a model for many diverse practices, from literary practice and futuristic exploration of architectural scenarios to the production of expanded reality (or cross reality) (XR) Projects."

(Breuleux, Y., De Coninck, B., & Therrien, S. (2019) p.5)

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Key questions emerging: What perceptual states are required to suspend belief? How can the choreographer facilitate arrival at the perceptual states and focus audience's attention within the world building design?

"Hence the environment engenders its own narrativity, by the mere fact of its existence. What is at play is no longer narrative structure but an invented world exists within certain boundaries and is organised according to its own specific rules."

(Breuleux, Y., De Coninck, B., & Therrien, S. (2019) p.7)

# *Artificial Intelligence*

"AI is a set of algorithms designed to function as parallel to human intelligence actions such as decision-making, image recognition, language translation/comprehension, or creativity."

(Mazzone, M., & Elgammal, A. (2019))

"Digital art is an incredibly diverse field, intrinsically in dialogue with innovations and challenges within science, technology and also the terms of public engagement. Yet within circles of art-making, art-viewing and art-critique, there remains great scope for conversations that broaden and extend our understanding of what digital art can, and will, become."



Figure 2: AI More Than Human at The Barbican



*Artificial Intelligence: What are the key moral and political questions regarding AI and Children and Young People?*

*What are the opportunities and challenges for children and young people's cultural learning and development?*

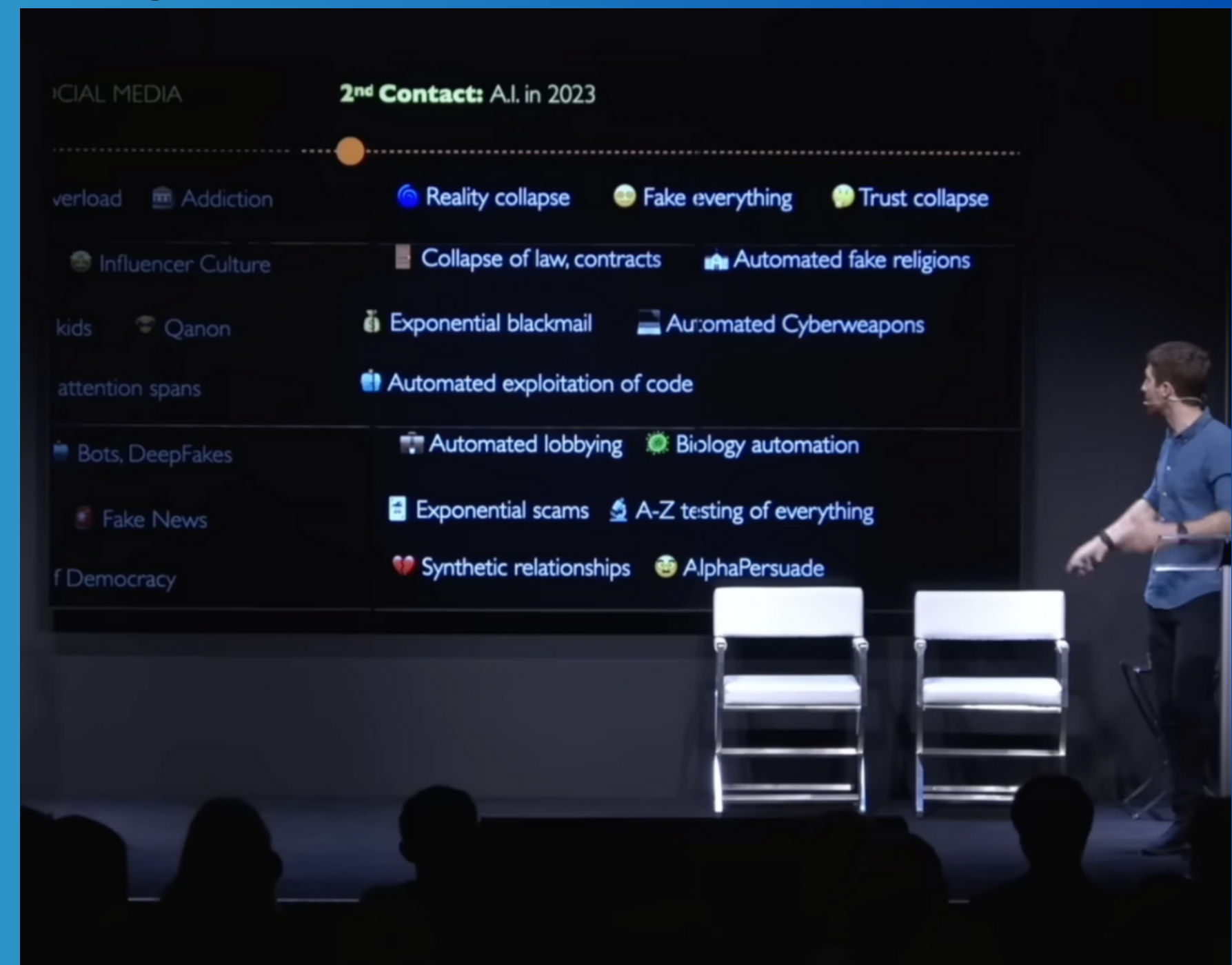
*How can creativity and culture facilitate these processes?*

Literature review:

<https://padlet.com/tuck.../digital-thinking-2ajc6i0xy2u5u93l>

<https://youtu.be/b5w1UySIRjl>

Figure 3: AI Dilemma Youtube Video Screen Shot



# *The Ultimate Purpose of these choreographic investigations: Raising Awareness*

As a creative practitioner, I have a duty of care to my audiences and children and young people. I think it is important to engage in dialogue with children and young people and people with an invested interest in their futures to raise awareness of the capabilities and threats of technology in my work. We must work together to explore the potential harms and opportunities through designing a safe and inclusive research methodology.

Will Artificial Intelligence Innovations align with human values, contribute to the sustainability goals and to begin to explore how artificial intelligence will impact society and children and young people's rights and freedoms.

Figure 4: AI Dilemma Youtube Video Screen Shot

Mentimetre: <https://www.menti.com/alqi3ns16uym>

Alexa: Make Me Disappear

<https://www.youtube.com/watch?v=dQuy7z1PxOY>

Alexa: Film Trailer: <https://www.youtube.com/watch?v=FcAKHAgEJHU&t=7s>

Full Show: <https://vimeo.com/820868615?share=copy>

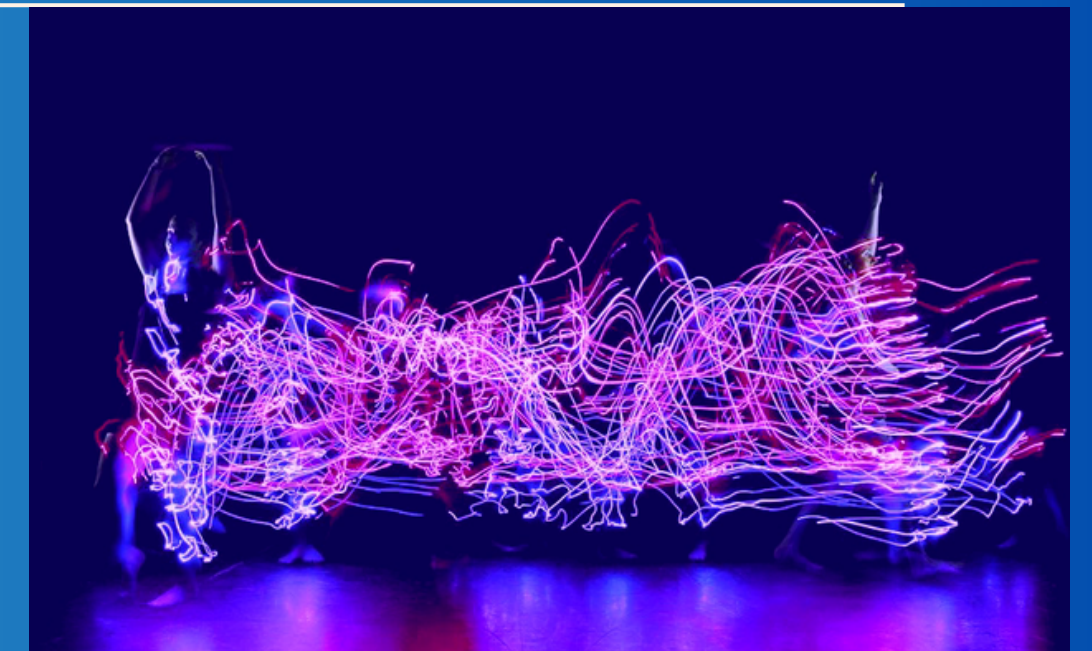
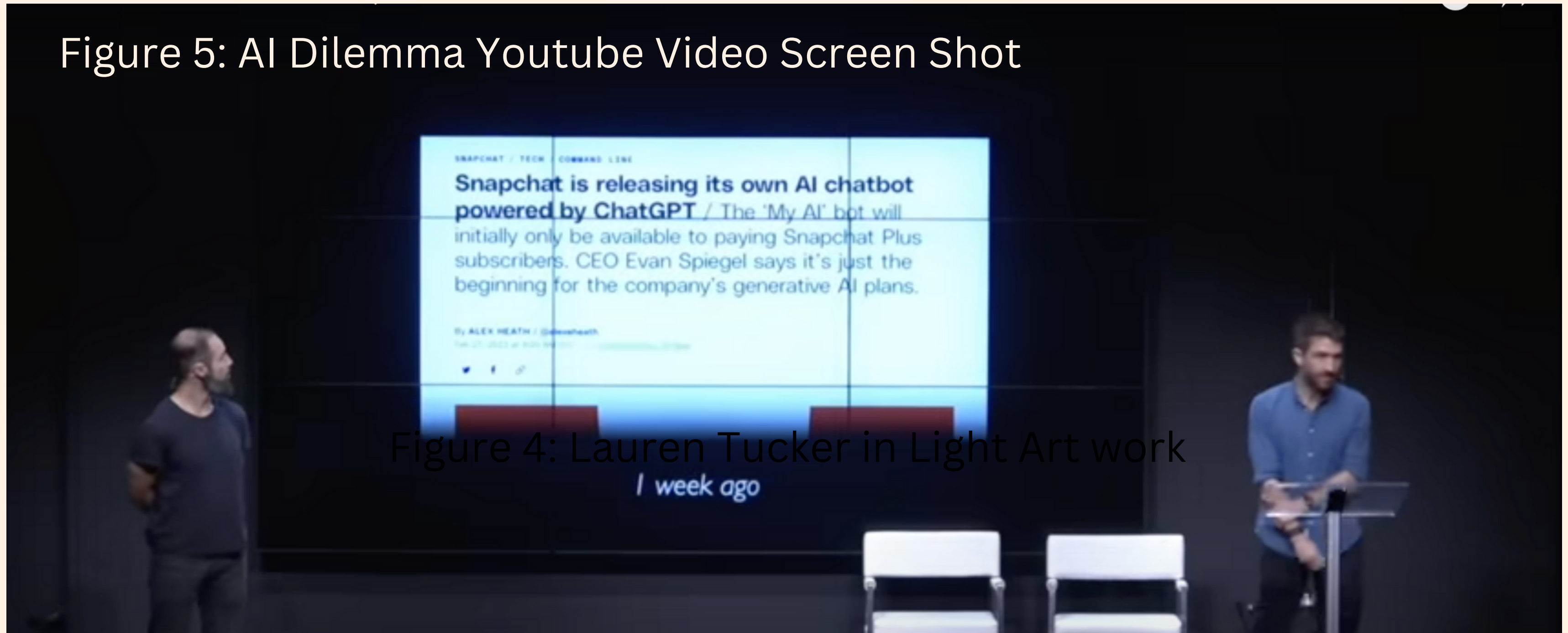




Figure 5: AI Dilemma Youtube Video Screen Shot



Snapchat implemented Chat GPT as a function, with 100 million users under the age of twenty five.

"The relationship between society and technology is yin and yang, with every massive enhancement accompanied by the potential for danger." (Grossman (2020))



# Ethical and Safeguarding Considerations

Just because it's legal doesn't make it ethical.  
Exposing Children to online risks at a crucial age of brain development :

Will results be age appropriate?

Unpredicatable and uncontrollable content outcomes pose risks that could put participants, audiences, and creative collaborators at risk of harm.

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CHILD RIGHTS by DESIGN PRINCIPLES	
	<b>1. EQUITY &amp; DIVERSITY</b> Do you treat all children equally, fairly and support vulnerable children?
	<b>2. BEST INTERESTS</b> Are children's best interests a primary consideration in product design?
	<b>3. CONSULTATION</b> Are children meaningfully consulted in developing your product?
	<b>4. AGE APPROPRIATE</b> Is your product appropriate for child users or adaptable for different ages?
	<b>5. RESPONSIBLE</b> Do you review and comply with laws and policies relevant to child rights?
	<b>6. PARTICIPATION</b> Does your product enable children to participate in digital publics?
	<b>7. PRIVACY</b> Have you adopted privacy-by-design in product development and use?
	<b>8. SAFETY</b> Have you adopted safety-by-design in product development and use?
	<b>9. WELLBEING</b> Does your product enhance not harm children's physical & mental health?
	<b>10. DEVELOPMENT</b> Does your product enable children's learning, imagination, play and belonging?
	<b>11. AGENCY</b> Have you taken steps to reduce compulsive and exploitative product features?

Figure 6: Child Rights and Principles

# Ethical and Safeguarding Considerations

Drawing on the Convention on the Rights of the Child, the guidance offers nine requirements for child-centered AI:

- Support children’s development and well-being
- Ensure inclusion of and for children
- Prioritise fairness and non-discrimination for children
- Protect children’s data and privacy
- Ensure safety for children
- Provide transparency, explainability, and accountability for children
- Empower governments and businesses with knowledge of AI and children’s rights
- Prepare children for present and future developments in AI
- Create an enabling environment.

(Policy guidance on AI for children. (n.d.). UNICEF.  
<https://www.unicef.org/globalinsight/reports/policy-guidance-ai-children>)












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Figure 6: Child Rights and Principles

# *AI and Creativity Debate*

“Is anything ever new and not derivative?” responds Luba Elliott. “As humans, if you’re a writer, you go to school, you read a lot of books, and that becomes part of your own dataset. Your brain with its own algorithm, processes this and you write whatever you want, but consciously or subconsciously, it will be influenced by what you read.”

Artificial intelligence and next generation storytelling. (2023, February 24). The Space. <https://www.thespace.org/resource/artificial-intelligence-and-next-generation-storytelling/>

I have found that access to a broader data set has enabled faster idea development and a multi-disciplinary approach. I can see it helping to aid communication when I pitch and discuss concepts.



Figure 7: AI Generated Spiral



## Models

- Text is the most advanced domain. However, natural language is hard to get right, and quality matters. Today, the models are decently good at generic short/medium-form writing (but even so, they are typically used for iteration or first drafts). Over time, as the models get better, we should expect to see higher quality outputs, longer-form content, and better vertical-specific tuning.
- Code generation is likely to have a big impact on developer productivity in the near term as shown by GitHub CoPilot. It will also make the creative use of code more accessible to non developers.
- Images are a more recent phenomenon, but they have gone viral: it's much more fun to share generated images on Twitter than text! We are seeing the advent of image models with different aesthetic styles, and different techniques for editing and modifying generated images.

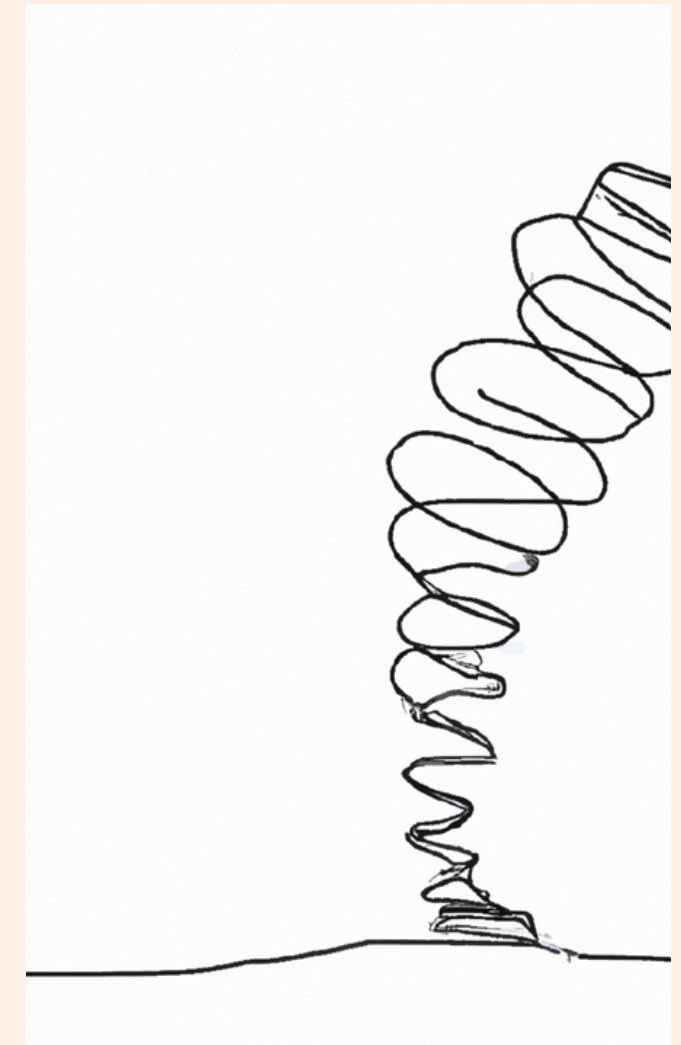


Figure 8: AI Generated Spiral

## Models

- Speech synthesis has been around for a while (hello Siri!) but consumer and enterprise applications are just getting good. For high-end applications like film and podcasts the bar is quite high for one-shot human quality speech that doesn't sound mechanical. But just like with images, today's models provide a starting point for further refinement or final output for utilitarian applications.
- Video and 3D models are coming up the curve quickly. People are excited about these models' potential to unlock large creative markets like cinema, gaming, VR, architecture and physical product design. The research orgs are releasing foundational 3D and video models as we speak.
- Other domains: There is fundamental model R&D happening in many fields, from audio and music to biology and chemistry (generative proteins and molecules, anyone?).



(Huang, S., Grady, P., & GPT-3. (2023)

Figure 9: AI Generated Motion Art



# *AI and Creativity Debate*

"Computational creativity is a rapidly growing field that is poised to disrupt the current creative workflow and expand the definition of what creativity can be."

'Machine-generated art is not a lesser form of art'

Reben (2022)

I believe that as a tool it has the potential to provide multi-disciplinary scaffolding to support creative processes.

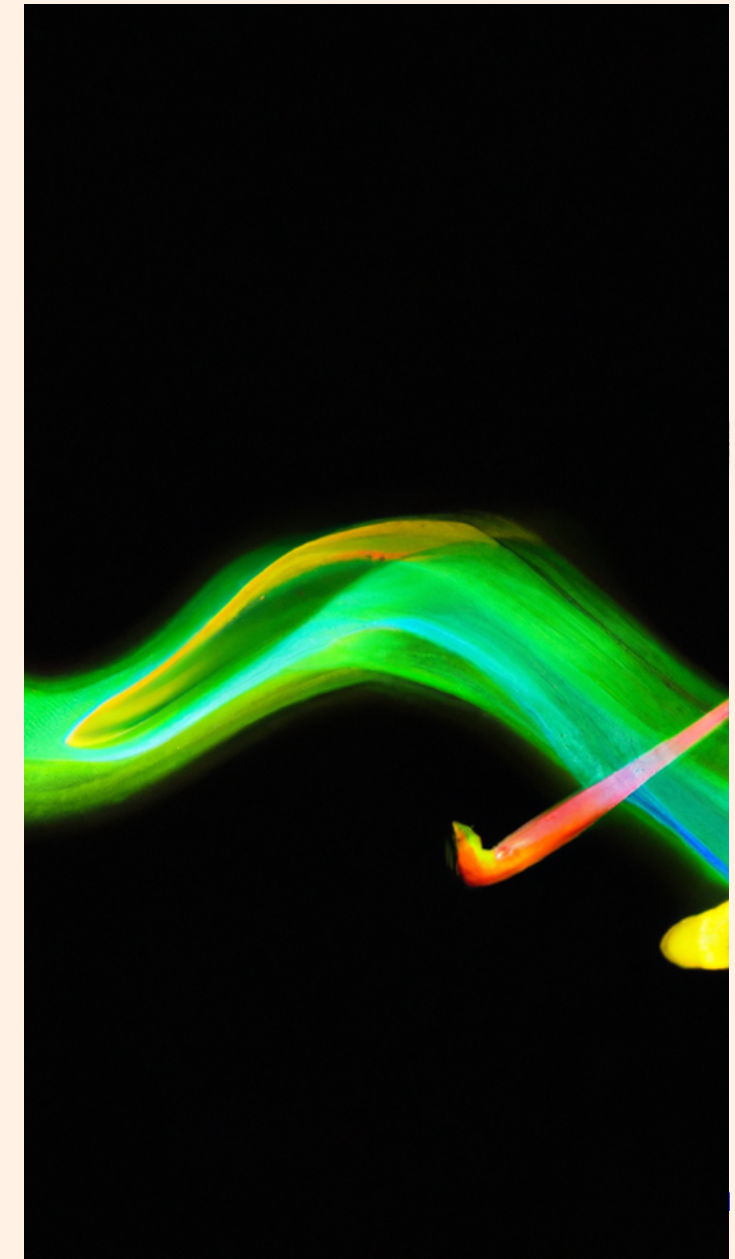


Figure 10: AI Generated Motion Art



"We can only build structures of governance and regulation for AI, machine learning, and algorithms by wrestling with questions about the character of our shared world and how we relate to one another as co-inhabitants of physical and digital public spaces. And that is ultimately what democracy is for: providing a structure, a shared set of processes and institutions, to empower us to answer those questions as a society over time."  
(Simons, J. and Frankel, E. (2023))

# *AI, Digital Rights and Intellectual Property*

"Digital rights' is a phrase that's grown up over time, and it covers the rights within and across digital/online distribution.

You can also protect that digital copy by putting 'digital rights management' (or 'DRM') technology on top of it."

[https://assets.thespace.org/Toolkits/The\\_Space\\_Digital\\_Rights\\_Toolkit.pdf](https://assets.thespace.org/Toolkits/The_Space_Digital_Rights_Toolkit.pdf)

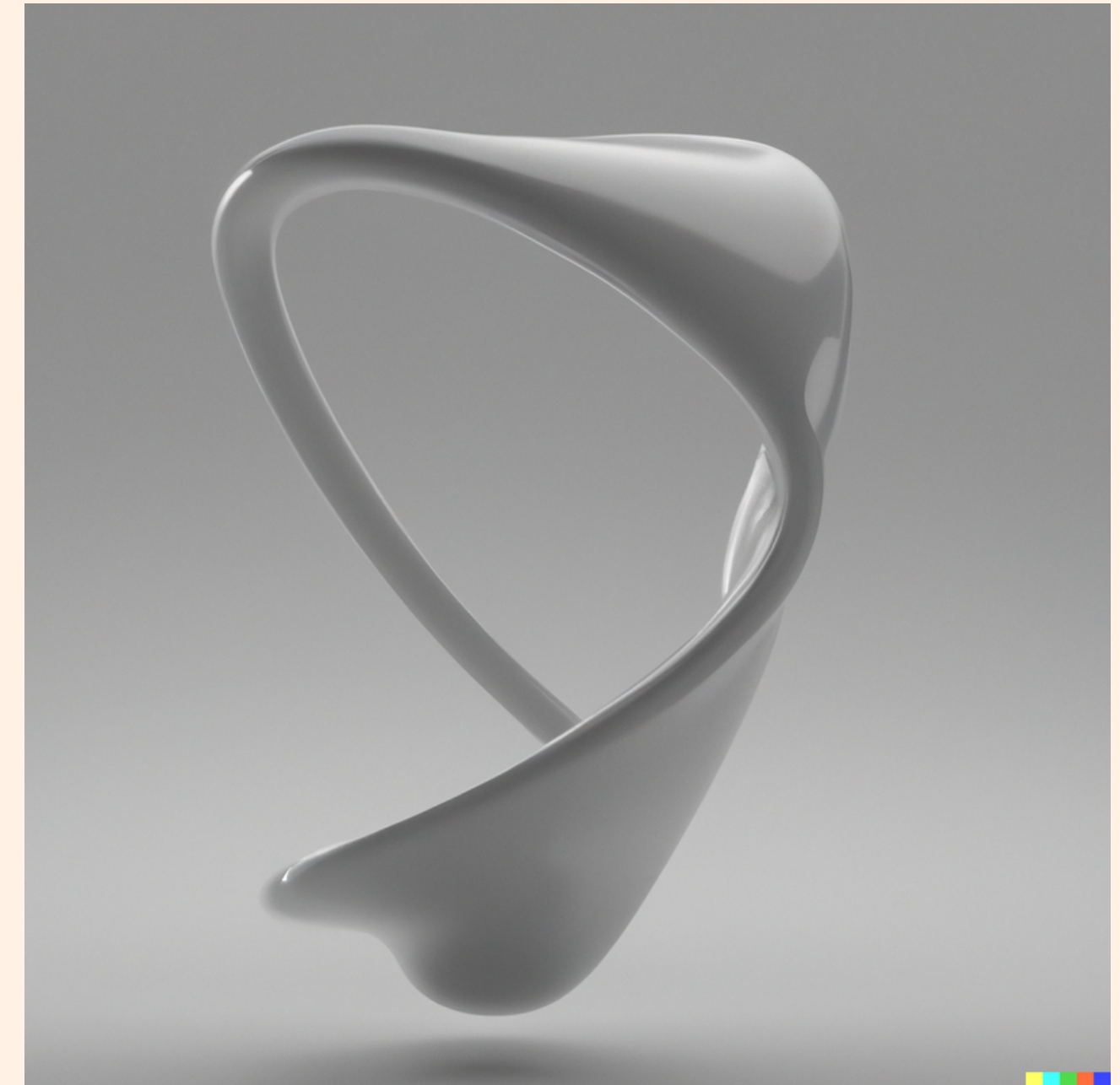
"Questions over important issues like copyright, trust & safety and costs are far from resolved."

(Huang, S., Grady, P., & GPT-3. (2023)

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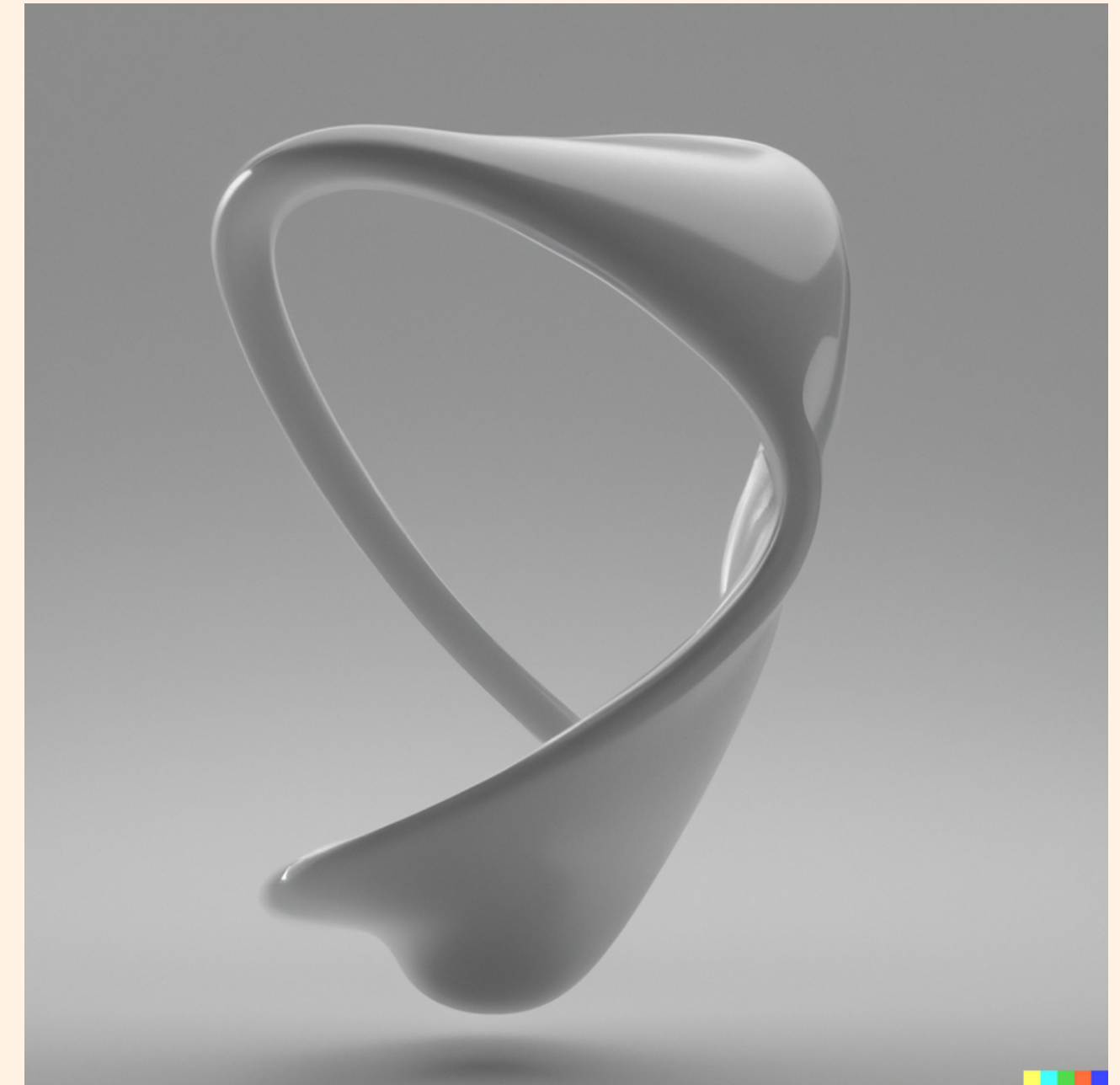




# *AI, Digital Rights and Intellectual Property*

"Entire segments of choreographic practice were digitalised, which has raised important issues with regard to intellectual property; monetisation; resistance to abandoning live physical encounters; the lack of technical and human resources; the carbon footprint of digital activity; the quality of experience for users / audiences; new forms of dramaturgy and aesthetics; and issues related to mental health, among others."

(EDN (2021))





# *Literature Review*

Literature uncovered themes such as;

- AI for health and wellbeing
- AI for overcoming trauma
- AI for social good
- AI and The Creative Process
- AI and Bias
- AI and Intellectual Property
- AI and Child Rights and Freedoms
- AI and Democracy
- AI and Intimacy

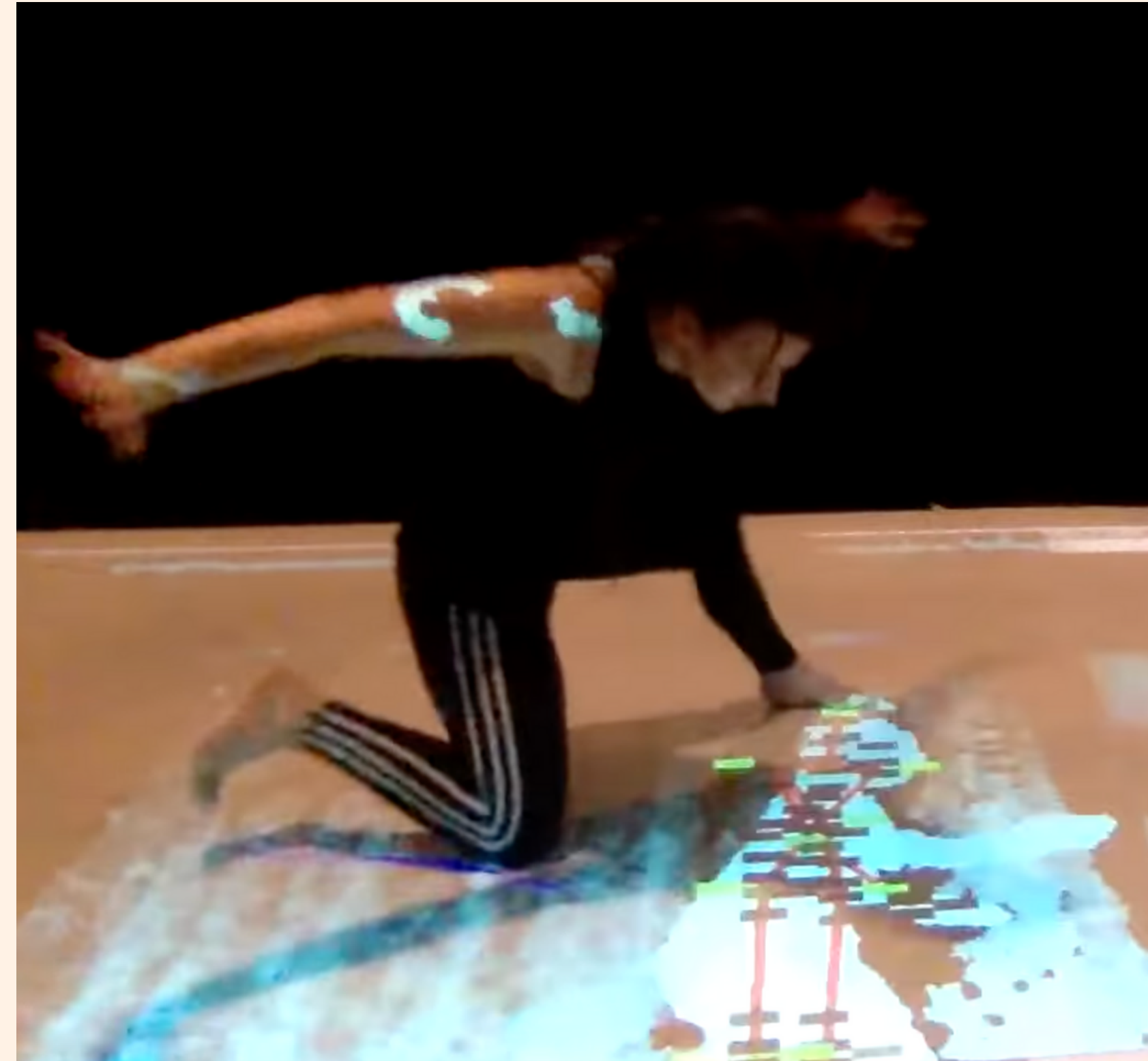


Literature:

<https://padlet.com/tuckshopdancetheatre/digital-thinking-2ajc6i0xy2u5u93l>

# *World Building as an immersive construct*

Digital Media and Technologies are opening up new possibilities within the choreographic process. The choreographic investigations have enabled me to test and refine approaches to create hybrid performative worlds.



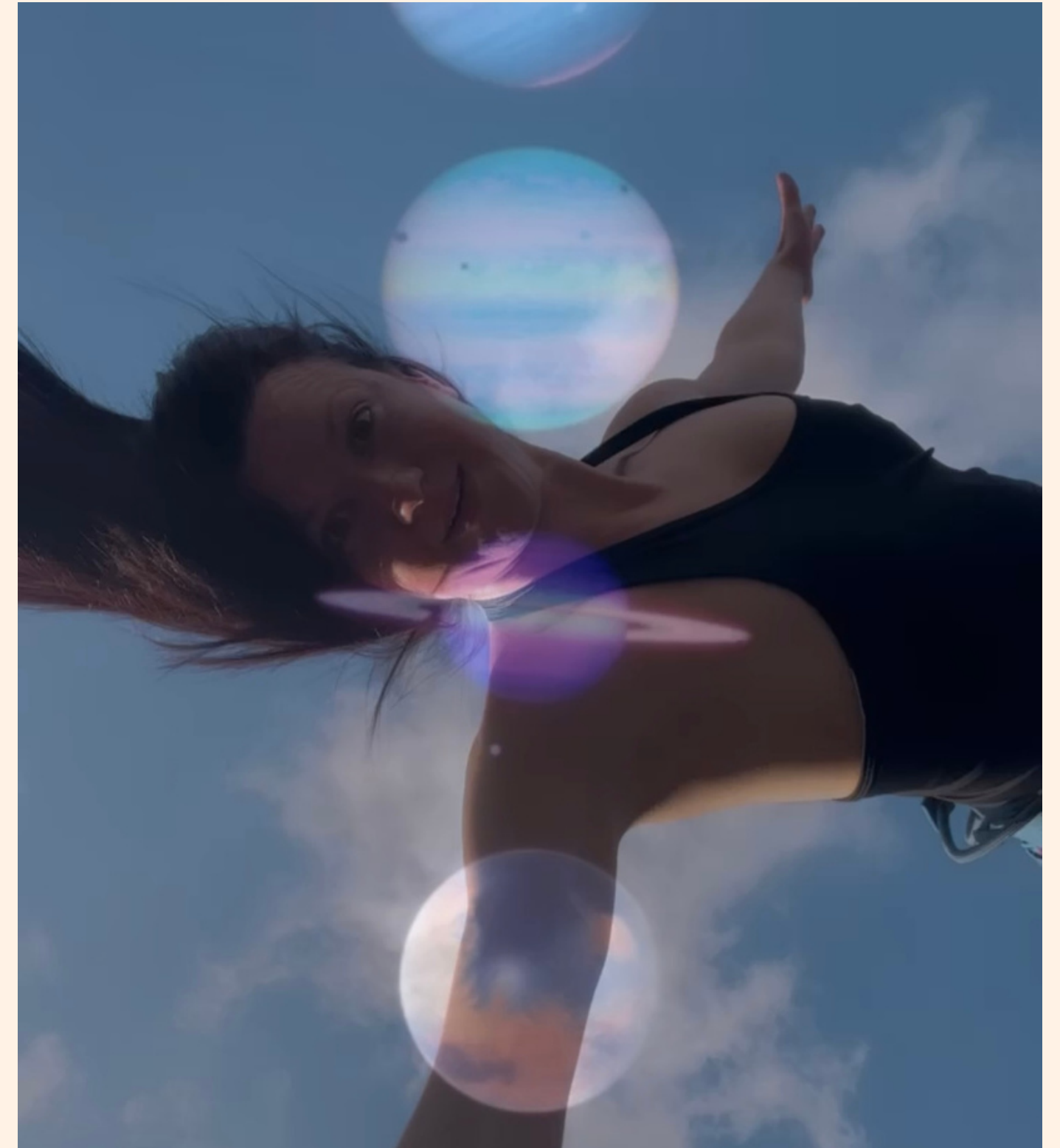


# *World Building: Digitally*

The proliferation of digital media is transforming my creative practice and enabling me to give audience agency and choice within the immersive performance experience. I am interested in how I can provide audiences a number of ways to experience the work.

Please see literature collated in the form of a padlet:  
<https://padlet.com/tuckshopdancetheatre/digital-thinking-2ajc6i0xy2u5u93l>

Software explored in this practice-led research: Isadora, Social AR, QR Code Maker Apps, AI: Dragon, Davinci Resolve, Imovie, Creative Captioning Apps, DALL-E 2, AI Chat GPT, Melodia, Typorama, Deep Dream Generator



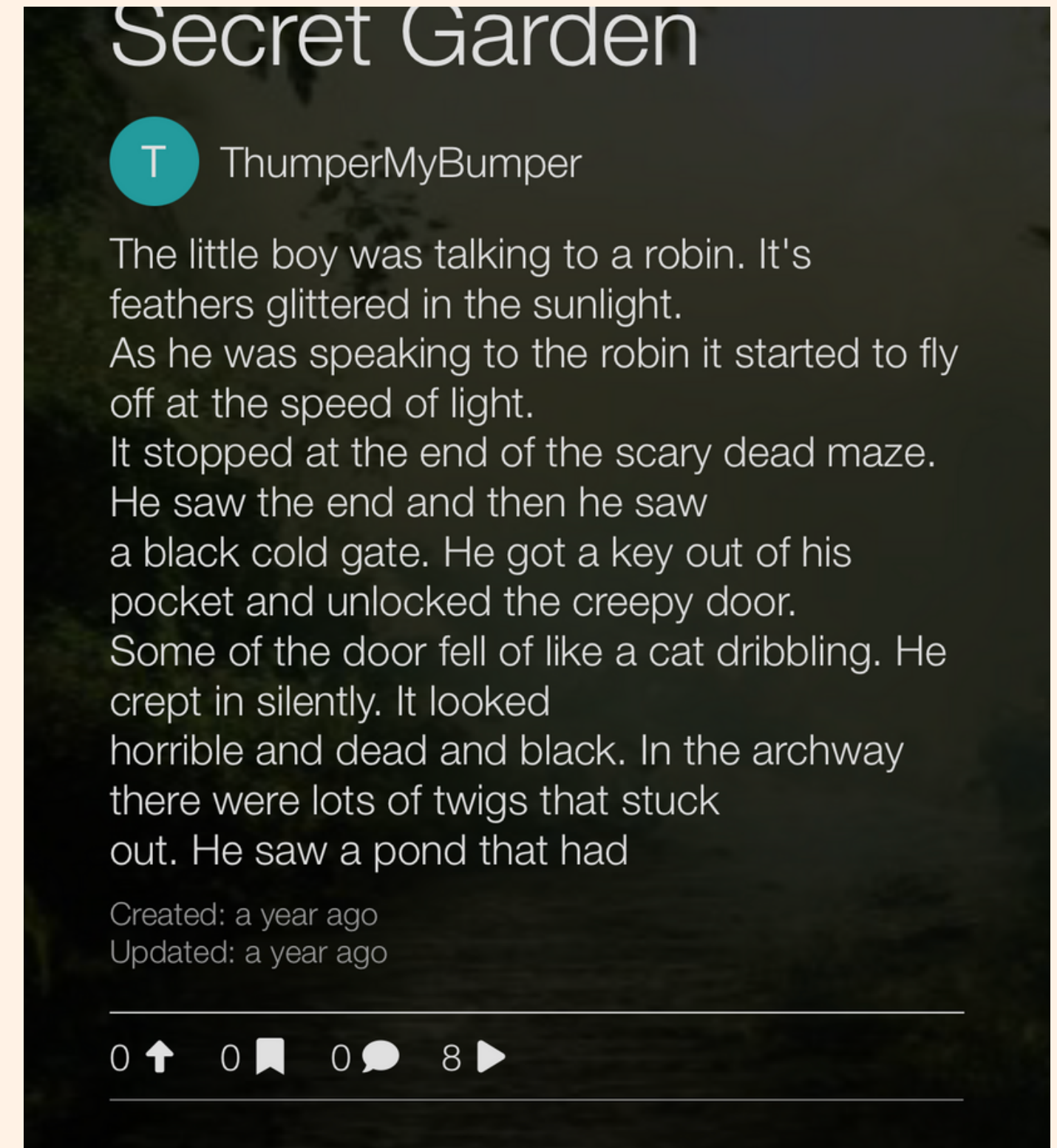


# Digital Storytelling

AI: Dungeon – Secret Garden

"The little boy was talking to a robin. It's feathers glittered in the sunlight. As he was speaking to the robin it started to fly off at the speed of light. It stopped at the end of a scary dead maze. He saw the end and he saw the black cold gate. He got a key out of his pocket and unlocked the creepy door. Some of the door fell off like a cat dribbling. He crept in silently. It looked horrible, dead and black. In the archway there were lots of twigs that stuck out. He saw a pond that had..."

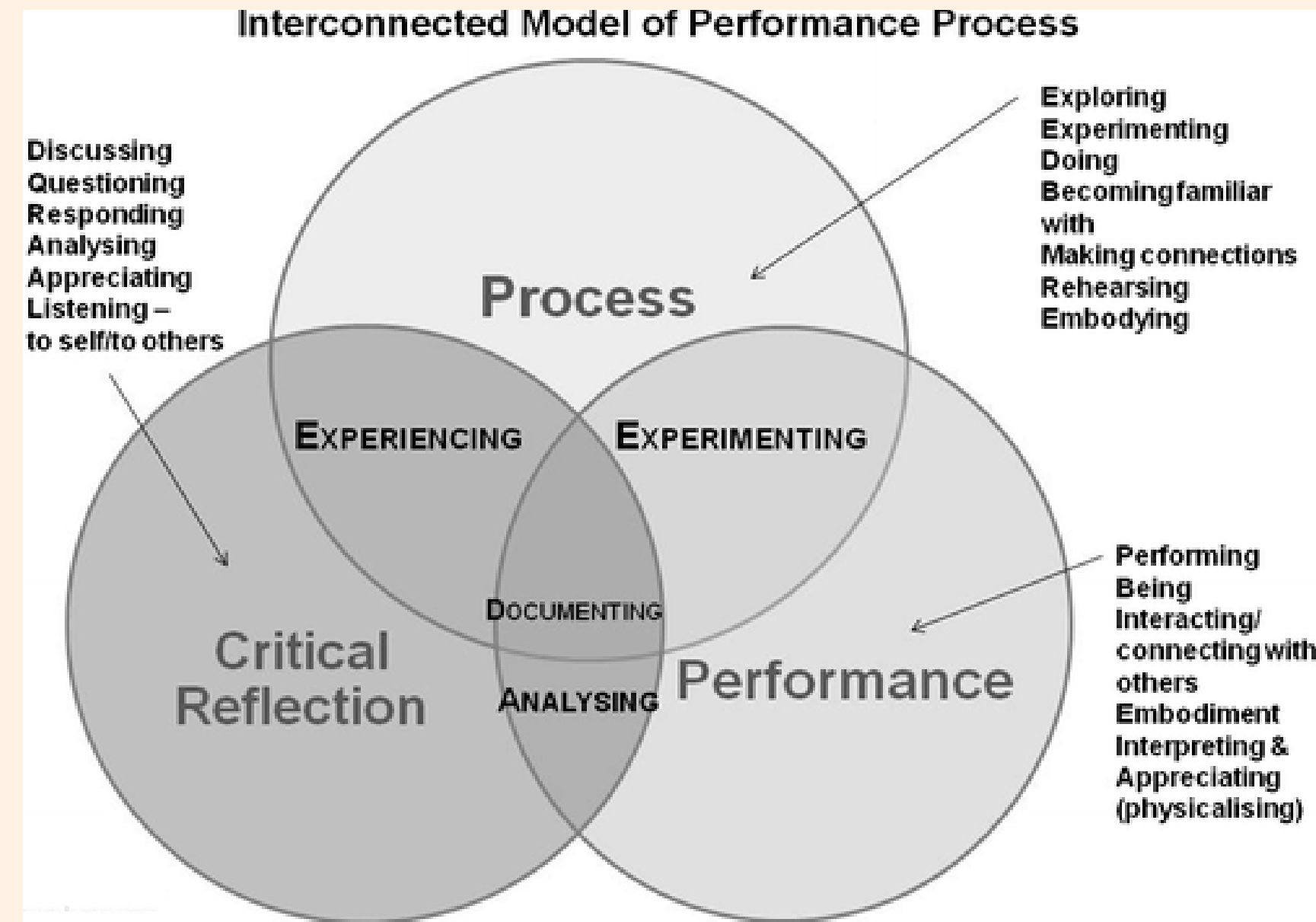
*Where do we go from here?*



# *Artificial Intelligence*

A free - associative writing prompt

- Imagine If... AI changed our world as we know it.
- Imagine a world where AI technology has advanced beyond our current understanding and the only place you can escape to, where you are safe and protected is a 'Secret Garden'
- Create a Seven Word Story.
- Input Seven Words as a prompt for a utopian/ dystopian story, a poem, a spoken word poem, script, in the style of a letter, diary entry etc. In the style of Eminem, Shakespeare, Amanda Gorman etc. Generate Text.



# Artificial Intelligence

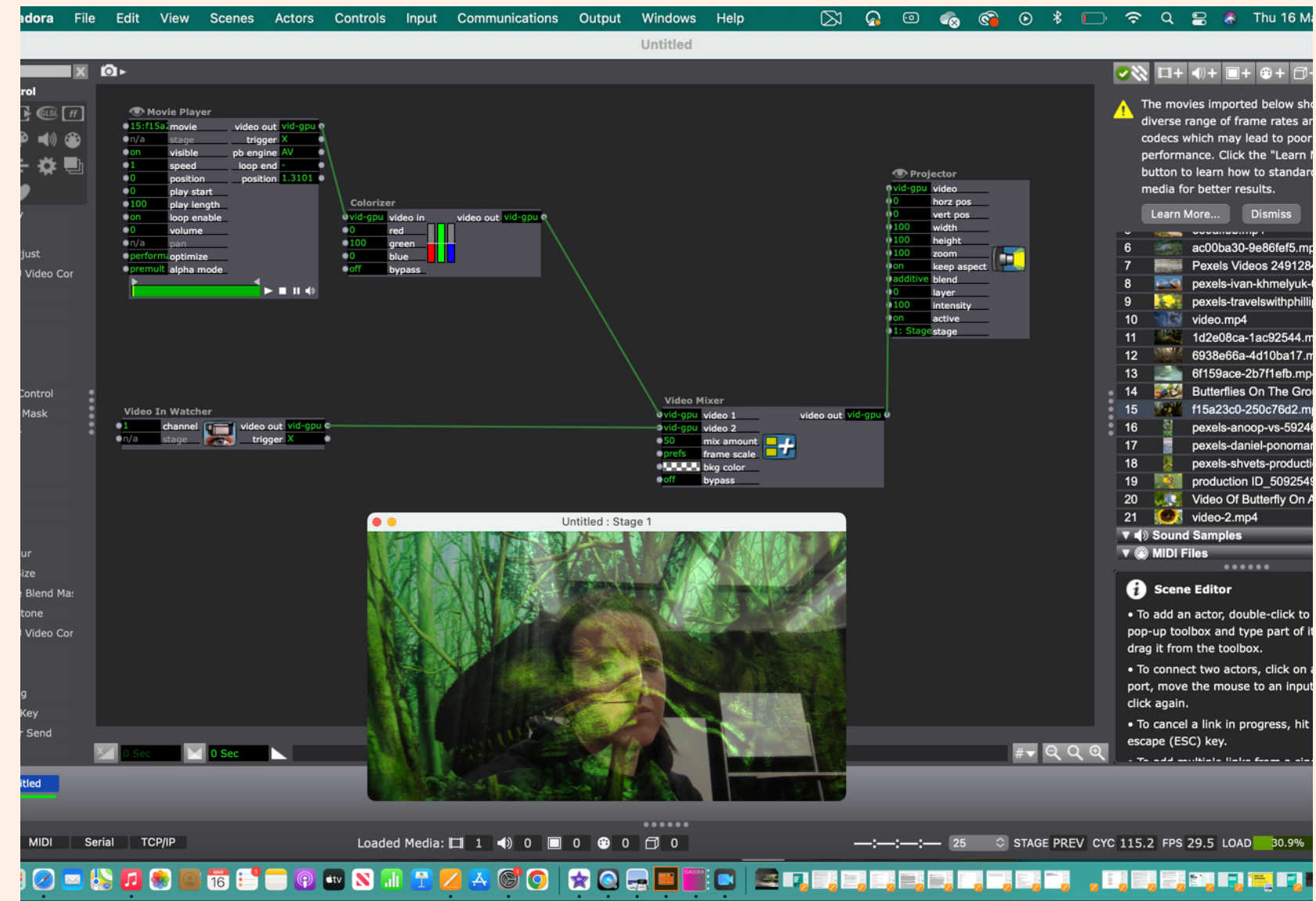
Respond to your text and image to engage in a somatic improvisation

Create movement material

Describe movement material

Input description of movement material add 'in motion' to the instruction prompt into DALL-E- 2

Critically reflect on the outputs.  
Are there any limitations in the results?





# *Extension Task*

Use Typorama to put generated text over image design.

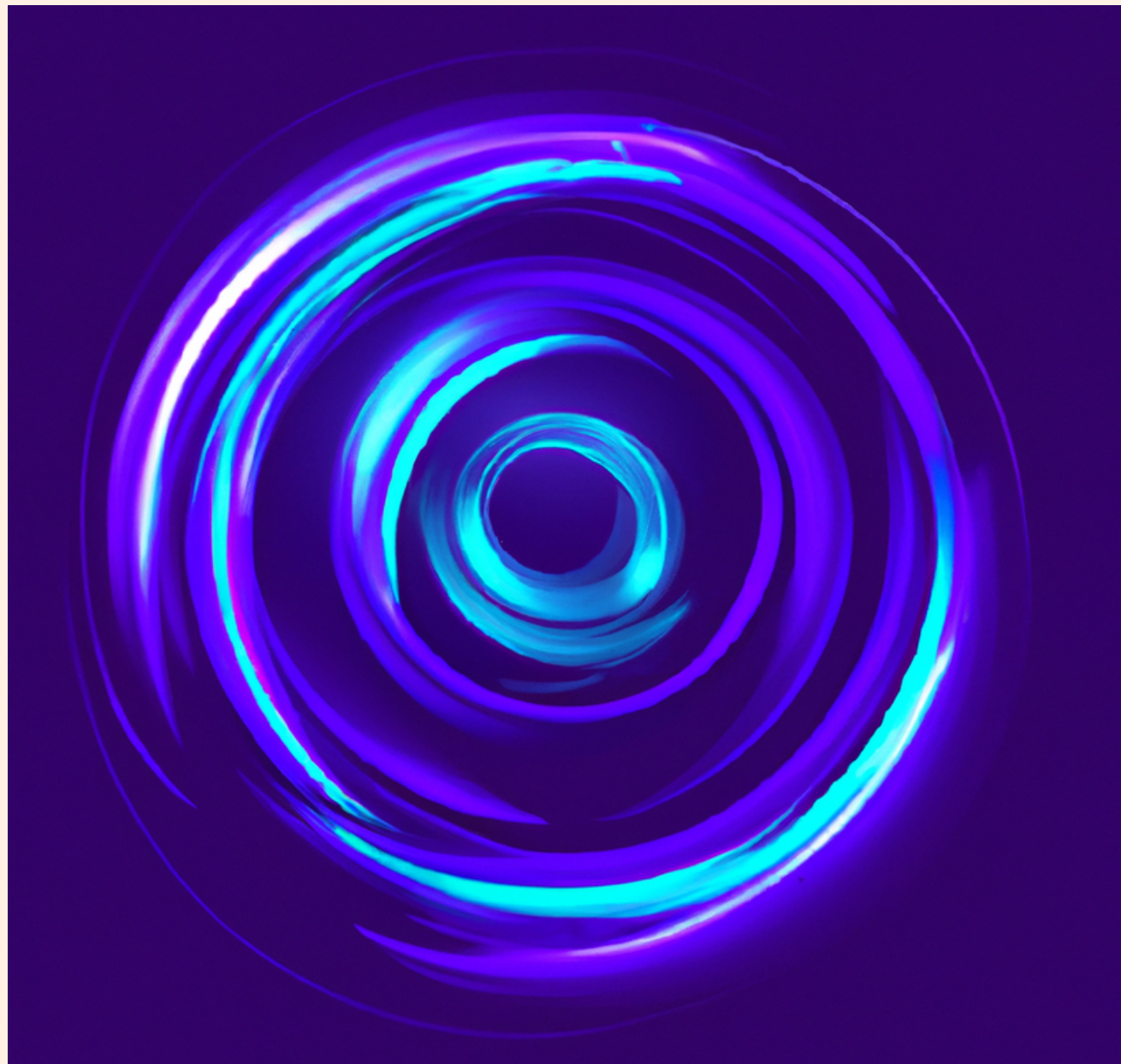
Use media as an input in an Isadora Patch, improvise in the technological physical performance environment with Isadora Projection Mapping Visuals generated by AI Media.

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# *Result*



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Choreographic Investigations has opened up some explorations of principles, and practice to explore the possibilities and potential of AI in my creative practice.

I am much more curious about AI as an area to explore and inform a future creative enquiry: How can we use dance to give meaning to AI generated text and visual outputs.

Media produced today will be re-used and repurposed for crowd sourced content and Isadora Software and Dance Experiments to support projection mapping within immersive worldbuilding activities.

A broader data set to work from and to embody.

I will continue to explore the artistic qualities, limitations and opportunities from critical reflections on engaging with AI, creative laboratories and choreographic investigations.

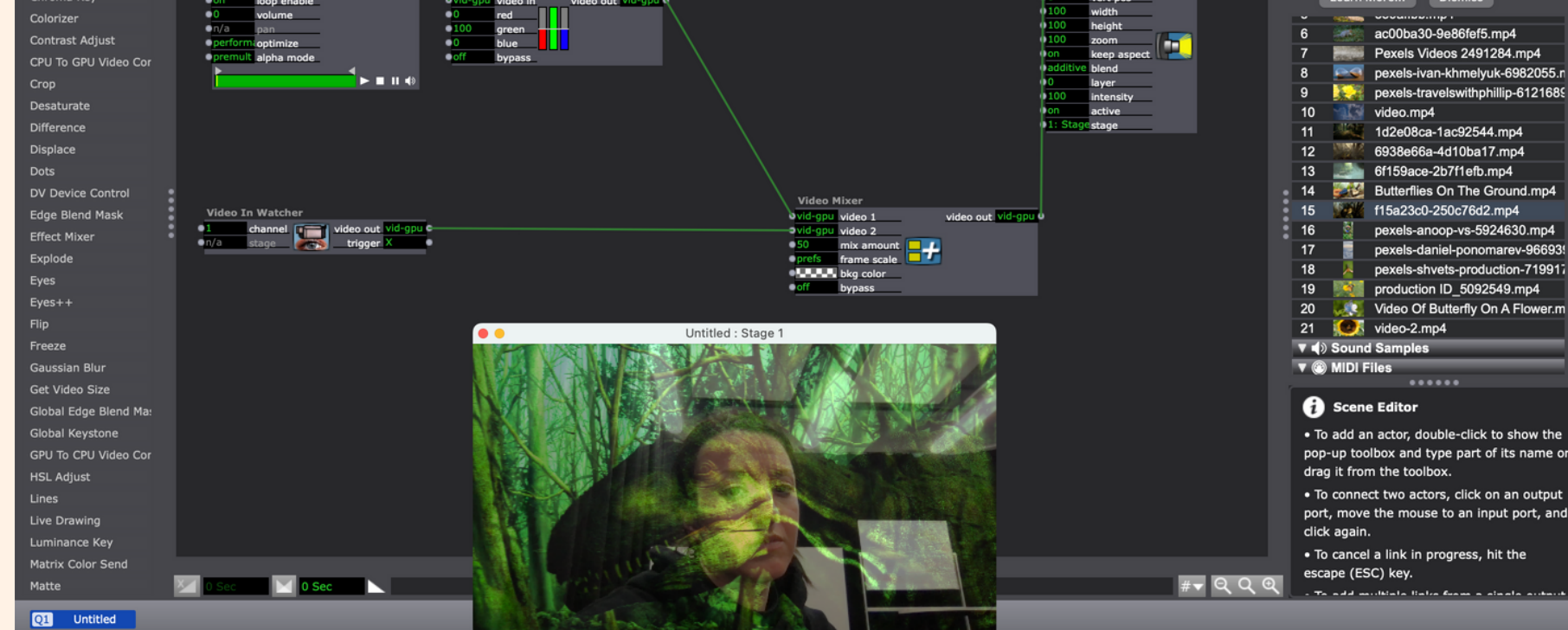
# Recommendations

Further research is needed to navigate ethical and safeguarding considerations in the creative processes concerning work with, by and for children and young people.

Encourage creatives to create a network of people invested in child – centred approaches in principles and practice to share learning to influence and inform policy and practice.

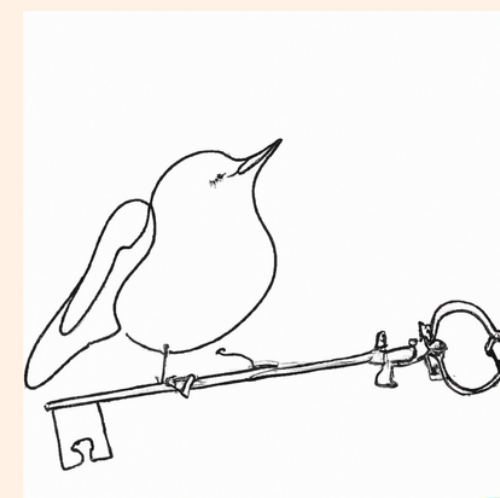
Include children and young people's voices in the creative processes to explore what children and young people need in creative and cultural ai and digital contexts.

Continue to explore 'how do we protect children and young people, including the most vulnerable, in creative technology projects?



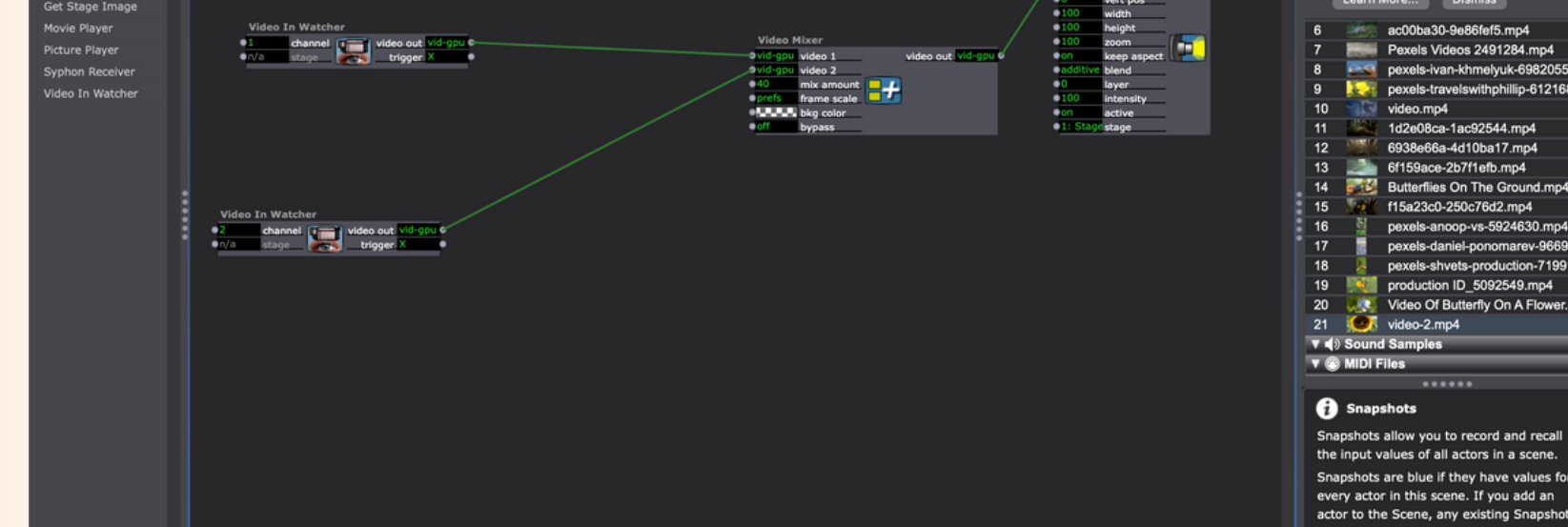
Co-create a cultural experience, with, by and for children and young people that raises awareness of the concept of children's rights and freedoms in the digital world.

Continue to work with children and young people to develop their critical thinking skills, digital literacy skills and provide equality of opportunity for children and young people to engage in creative and cultural learning. .





# Key Recommendations



To facilitate a participatory group maker space experiences to share some of my digital learning.

To shift from an investigative focus towards shaping an audience experience that brings together some of the learning and outcomes of this process.

To working with children and young people in cultural learning contexts.

Communicate the learning across multiple platforms.

Implement, explore and validate research through creation of participatory performance experience.

Continue to engage in dialogue around the future implications of AI on our wider society.

*Everything you can  
imagine is real...*  
*Picasso*

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University of Salford  
Choreographic  
Investigations

# *Bibliography*

Bibliography and Reading List can be accessed here:

<https://padlet.com/tuckshopdancetheatre/digital-thinking-2ajc6i0xy2u5u93l>