# Precious Camouflage - Artistic Research for the Creation of a Dance Piece with Humans and AI

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## Abstract

This paper presents the layout of and research behind the dance performance *Precious Camouflage*, which explores the interplay between human movement and artificial intelligence (AI) within a museal space. The work stages four AI systems that interact live with a contemporary dance ensemble and the audience, critically examining themes of agency, surveillance, interpretation, and body politics. By intertwining choreographic principles with real-time AI responses, the performance challenges traditional notions of authorship and reflects on the societal and ethical implications of digital technologies. In addition to presenting the communicative setup, the work is accompanied by extensive research on ethical questions, with a focus on the representation of bodies in datasets. This paper reflects on the artistic research methodologies applied in *Precious Camouflage*, highlighting their relevance for both performative arts and Human-Computer Interaction (HCI) contexts. Background materials and the recorded performance are available at http://www.precious.dance.

## CCS Concepts

• **Applied computing**; • **Performing arts**;

## Keywords

performance art, dance, AI, digital art, agency, body, live interaction, ethics

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## 1 Introduction

In an era marked by the democratization of digital technologies and the symbiosis of virtual and real bodies and objects, the question of embodiment, agency, autonomy, and authorship arises anew. Precious Camouflage is the title of an artistic research project resulting in a dance performance that seeks to explore these questions by integrating human movement and AI in an exhibition space (Figure 1). The dance piece Precious Camouflage can be presented both on stage and in museum spaces, which the audience may enter when no performance is taking place. In this way, the spectator becomes both a part of the installation—as a moving body—and an active agent who influences the piece.

The hyper-exponential growth of technologies such as machine learning and AI, mixed reality, big data, and robotics has fueled intense competition among systems and key players. However, large parts of society risk losing connection and access to these developments, missing the opportunity to engage with their impact. Artistic research and innovative dance formats can offer critical reflection on these technologies and their deeper societal implications. As an interface between art, science, and technology, this approach fosters the expansion and mutual enrichment of these fields, opening space for new avant-garde directions.

Along with the development of AI systems, the related discussions are advancing rapidly. Beyond the technology itself, artistic work involving AI, as well as sociological, ethical, and philosophical debates, show how AI influences many areas at once. These topics are not limited to individual fields—they overlap and interact in complex, multidimensional ways. Even within each area, different branches and perspectives are emerging [1].

The following chapters continue with a short discussion on related artistic research on dance, XR, and AI. They then describe the work itself, detailing the artistic research process, the technical and experiential setup, and the dramaturgical structure. A broader artistic background frames the theoretical foundations and key topics of interest, leading into an explanation of the specific choreographic principles developed for the piece. The paper concludes with a summary of findings, reflections on ethical considerations, and an outlook on future developments.

## 2 Artistic Research on Dance, XR and AI and related work

Artistic research in digital arts is an iterative, practice-based inquiry that combines artistic practice of creating aesthetic experiences with a systematic reflection and theoretical analysis. This evolved from traditional modes of artmaking by integrating experimental practices, digital technologies, and critical discourse to generate new knowledge about both the aesthetic and socio-cultural dimensions of digital art.

According to Julian Klein, artistic research strives to constitute a form of felt knowledge. He conceptualizes it as a multi-layered practice—one that may arise as a byproduct of artistic experience,

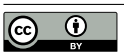


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**Figure 1: Impression from the piece Precious Camouflage. ©Patrick Essex**

be inherent in the artwork itself, or be connected to forms of declarative knowledge. [2] Essentially, artistic research for digital art can be defined as the systematic exploration of creative processes in the digital realm, where artworks are developed, experimented with, and evaluated not only for their final aesthetic output but also for their capacity to inform and transform our understanding of digital culture.

The integration of artificial intelligence as an artistic collaborator is a prominent example of artistic research in digital arts. In this context, researchers have developed models such as the Artificial Intelligence Artist Assistant (AIAA), which supports innovative approaches to digital storytelling and interactive art production, blending human creativity with algorithmically generated inputs [3]. Another example is the study of AI-generated art by Messingschlager and Appel, where investigations into the ascription of agency and the perception of artworks challenge conventional notions of authorship, thereby offering new perspectives on the relationship between the creator, the technology, and the viewer [4]. Furthermore, methodologies such as speculative design have been employed to imagine future artistic practices and collaborative frameworks that transcend current empirical limitations, pushing the boundaries of creative expression [5].

In the piece presented we strive to tackle all three layers mentioned by Klein [2], discussing explicit, implicit, and felt knowledge on the interface of AI and dance discourse using the example of the development of Precious Camouflage as a representative for all three layers – as an art piece itself, as several developed artistic experiences and declarative knowledge through the theoretical and applied research in the fields of HCI, art and dance.

Building on our previous research [6], the following section focuses on presenting and discussing the specific dimensions of our approach to artistic research. Similar to the model presented by Castillo et al. [7], we interconnect multiple AI systems within a communication loop, directly linking their interaction to the dancer's communicative process.

## 3 Description of the Work

### 3.1 Artistic Research

Precious Camouflage challenges the relationship between artistic dance work and intelligent systems as digital agents within a creative fabric. We explore how AI systems are trained to interpret human input and gradually establish communication between them, allowing these systems to influence the artistic process—both within the research framework and as active agents in the installation environment. We argue that within the medium of a performative setup, it is possible to reveal the complex ambiguity of interpretive appropriation—such as the tension between intimacy and voyeurism—without compromising the artistic and embodied qualities in favor of technology.

The research was conducted in three phases over the course of two years and is open to be continued. The first phase focused on exploring how AI systems can engage with the moving human

**Figure 2: View on the Precious Camouflage setup. ©Patrick Essex**

body, aiming to understand both the technical potential of such connections and the conceptual space the body occupies within these systems (A). This exploration resulted in several prototypes and the development of new approaches suited for working with dancers (B). Second phase extended the research into practical application with dancers. AI systems were trained and refined through iterative rehearsal processes, allowing for method development in direct collaboration with performers (C). Concurrently, several subprojects, formats for mediation, and discussion-based formats were developed to approach the topic of AI from the moving body point of view (D). The third phase synthesized the outcomes of the previous phases, culminating in the creation of the dance piece Precious Camouflage, both as a technical system and an artistic work. Complementary mediation formats—including talks, workshops, a dedicated website, a booklet, and a featurette—were also produced (E). In addition to touring the piece to various venues, the research continues to evolve, forming the basis for the ongoing development of the project (F).

## 3.2 Setup and Experience

*Precious Camouflage* features an ensemble of four dancers and four AI systems, each represented on five LED screens (Figure 2). These screens vary in size from $0.5 \times 2$ meters to $2 \times 3$ meters and are mounted on a custom-welded iron rig, with one LED screen suspended above the stage. A square of white marley dance floor defines the performance area.

A camera, mounted on a tripod, is directed at the space in front of the LED screens to capture both the dancers and the audience—whether passersby or those actively engaging. At times, the performance area itself is partially recorded. Throughout the piece, the camera is repositioned by the dancers. The LED screens serve as interfaces, connected via computer and internet to four AI systems. These systems process the live visual feed of the performance through various AI models, generating multiple parallel outputs.

*Precious Camouflage* is designed for flexible staging but originally created for a performance area of $12 \times 12$ meters. To ensure optimal visibility and system responsiveness, a well-lit space is recommended. The installation was developed with a spacious museal context in mind, allowing enough room for audience positioning around the performance area. As the setup reacts live to its environment, the audience is invited to engage with the AI systems when no performance is taking place. In doing so, they become active participants—agents of interpretation and interaction—comparable to the role of both the dancers and the AI systems. During the performance itself, the audience is encouraged to move freely around the space, though not on the dance floor.

*Precious Camouflage* offers a live communication setup between dancers and AI systems. Since the interaction occurs in real time, the system's responses to both intentional and unintentional interactions of the dancers and their surroundings manifest in a performance that is unique and non-repeatable. Each iteration becomes a temporally and spatially unique manifestation of the piece, directly shaped by the dancers and audience present.

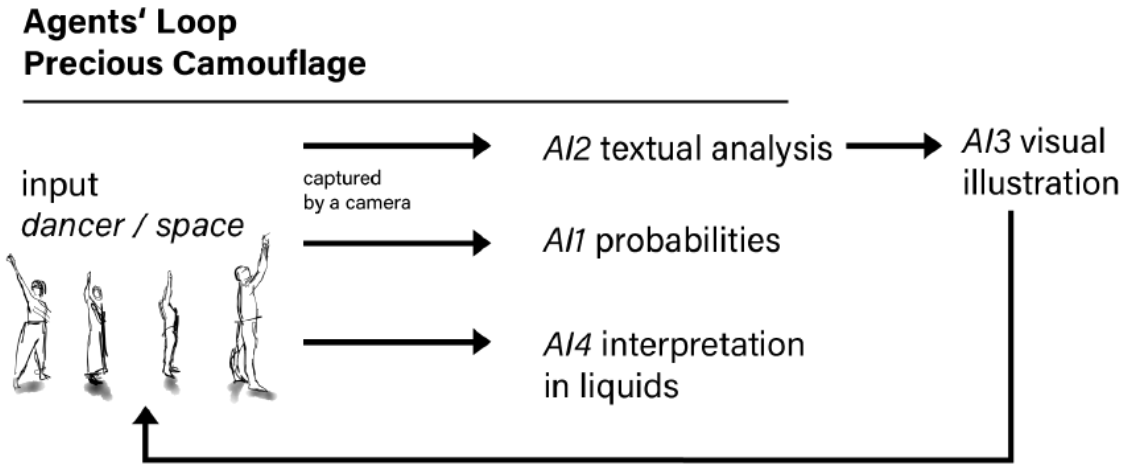


**Figure 3: Agents' Loop Setup for *Precious Camouflage* featuring four human dancers and four live AI agents ©Charlotte Triebus**

### 3.3 Dramaturgical Structure

The piece explores several artistic concepts in its creation, which are abstracted and translated into dramaturgical principles. Central to the structure is the concept of a feedback loop between AI and dancers, where each segment influences and modifies the behavior of the other, creating a continuous cycle of adaptation and change. The energetic development varies from scene to scene, which are either structured as set plateaus with a constant level of looping energy, or as dynamic sequences that evolve across shifting energy levels, defining the overall arc of the piece.

The staging reflects abstract principles of influence and control, with choreography symbolizing the ongoing and evolving exchange between AI agents and human agents. Each part serves to reorient the spectator's perspective by suggesting different narrative angles on their entanglement. The spatial positioning and movement of the dancers are composed to guide attention—inviting directional shifts, shaping perception and interaction.

The dramaturgical development unfolds across three related layers: the choreographic structure, the dramaturgical staging of the AI systems, and additional dimensions provided by music and lighting design.

3.3.1 AI Dramaturgy. The AI setup includes five LED screens showing four different AI systems and a live video feed from a camera. The performance is structured so that each part is shaped by the output of one of the AI systems, with each system interpreting different types of content. Sometimes the AI responds directly to what's happening live in front of the camera; other times, it reacts to the output of another AI that's also responding to the live events. All these interpretations are based on the same real-time input but shown in different ways.

The screens switch between several types of output: the raw live video, a list of things the first AI claims to be seeing (AI1), a text description of the scene (AI2), a visual interpretation of that description (AI3), and an abstract version of the events shown as flowing liquid forms (AI4). The setup results in a loop reacting to the newly proposed responses by the systems, which in turn trigger renewed interpretations. (Figure 3)

In the beginning each screen embodies one AI system. As the piece goes on, one AI might also appear on other screens. Each movement and interaction—or the absence of the same—affects the piece directly, as each element responds in real time. Instead of explaining everything to the audience step by step, the staging invites them to discover the connections between the screens on their own. In the first four scenes, only one screen is active at a time. Then, in the fifth scene, the full setup is revealed, with multiple AI systems sharing their interpretations at once.

3.3.2 Dance Dramaturgy. The 60-minute performance is divided into eight parts, structuring dramaturgical, interactive, and formal elements. A preface and a closing scene are framing the piece, serving a dual purpose: first, they offer an initial glimpse into the energetic landscape of the performance by introducing the soundtrack and the first AI system—already describing the stage environment as the audience enters. Second, they reference the overarching concept of the loop, a motif revisited throughout the work.

In the first scene *Pat My Back*, the four dancers enter one by one and perform a synchronized, form-based 90-second movement loop. After two loops, one dancer begins to break away with spontaneous outbursts, gradually shifting the group's direction. Though these outbursts seem random, they are responses to the AI's live visual interpretations of the scene. One outburst is also a reaction of the dancers to the audience itself. Eventually, a dancer steps aside to observe, while the AI visuals continue to unfold.

In the second scene two dancers continue the movement from the first scene, while one observes and other moves across the stage in a backbend. A second dancer joins this walk, while the fourth rests center stage. The screens now show both the illustrative and descriptive AIs.

In the third scene the observing dancer initiates the *Broken American Sequence*. The backbend duo halts and joins in, echoing the

**Figure 4: Scene three: *American.* ©Patrick Essex**

sequence in a deconstructed form. The fourth dancer briefly joins, then leaves to crawl forward and quietly drool. Two more dancers follow, forming a diagonal trio, contrasted by the searching energy of the remaining dancer. AI outputs now include tags and probability scores on screen.

In the fourth, *Mind-bending Sequence* the motif of walking is revisited, with dancers moving along sharp, angular diagonals in asynchronous, otherworldly, machine-like patterns. Starting simply and gradually building complexity, the stage divides into several zones where dancers perform parallel yet unsynchronized actions. Movements become increasingly fluid, blending into brief duets before the dancers converge into a sharper, evolved synchrony. Throughout, the water AI is displayed, with dancers interacting with the screens and camera. The scene culminates in a high-energy fusion of earlier movement motifs, signaling a transformed perception of space and time as it transitions into the fifth scene.

The fifth scene begins subtly in the background, introducing a variation of the *American Sequence.* Dancers join one by one, following the same rhythm but with increasingly intertwined, indistinct movements, reflecting a deepening feedback loop. As they converge at center stage, multiple AI systems start to interact simultaneously on the screens.

Scene six, *Sacred Sequence*, presents two contrasting states: a vibrating knot of three dancers and an isolated, searching solo. Gradually, the dancers shift between these states, culminating in an explosion of high-energy movement directed toward the main LED screen. Throughout, AI systems flicker on and off, alternating with blank white screens.

The seventh scene, *Ocean of Spit,* deepens the complexity of interaction, showing heightened influence and parallel action without synchronization. One dancer separates, performing a duet with the camera, focusing on closeups of lips and drooling. Meanwhile, the other three dancers remain at maximum energy: one sips and spits water to create a ”lake” onstage, another hides and reveals herself behind the screens, and the fourth moves in shadows, exploring contrasts between performing for the camera and off-camera presence. Although each dancer follows a different trajectory, their actions are composed into planes and diagonals, linking themes of social media representation and physical interaction. The loop concept appears in repeated motifs — wiping, squeezing, drinking, spitting — and a fast-forwarded version of the entire piece is performed in one minute, alluding to TikTok’s 60-second loops. The relationship between child and parent in learning language is mirrored, and earlier movements reappear rotated 90 degrees, evoking reflections of Narcissus and the screens themselves. Looping, interpretation, and appropriation define this scene’s exploration of power, surveillance, and dominance. The LED screens simultaneously display the live camera feed, the water AI, the labeling AI, and the illustrative AI.

In the eighth part, the dancers break off individually and reassemble at center stage, creating a cut-like effect reminiscent of film. A dense, fast-paced group choreography unfolds, presenting a direct, formal performance for the audience. Movements reference

**Figure 5: Costumes for *Precious Camouflage*. ©Flora Miranda**

earlier material with a serious yet sketchy tone, blending memories of past sequences. It becomes increasingly ambiguous whether the choreography is dancer-driven or AI-influenced. The scene ends in a high-energy freeze, with all AI systems and the live camera displayed simultaneously on the LED screens.

In the closing scene, *Bracket—Equilibrium,* a sudden blackout shifts the scene, preserving the previous energy plateau. For 70 seconds, the audience remains in darkness, with the intense afterimages lingering. The soundtrack subtly weaves together motifs from the entire piece, closing with a return to black where only memory remains. The question of control — human or AI — is left unresolved. The final bracket mirrors the introduction, completing a full cycle and recontextualizing the opening déjà vu.

3.3.3 Music, Costume and Light Design. The soundtrack, composed in collaboration with Sergej Maingardt [8], is built from multiple AI-driven layers arranged in 360 degrees, adapting to the dancers' and audience's orientation. It integrates live recordings of AI training charts, AI synthesizer tools, and processed sounds from talks on identity appropriation, blending them with found footage and audio snippets.

For the costume development, the artist collaborated with designer Flora Miranda [9]. The four dancers wear changeable costumes described as futuristic, functional, and non-functional street haute couture (Figure 5), designed to influence interactions with the AI systems. The costumes highlight each dancer's individuality and can shapeshift during the performance. Materials integrate findings from Miranda's project *IT Pieces Songlyrics*, where a machine learning model trained on song lyrics and social media data controlled a knitting machine to produce personalized garments.

For the light and stage design of the piece the artist collaborated with light designer Markus Fuchs [10] and stage designer Louisa Robin [11].

## 4 Artistic Background

An AI specializing in image recognition, especially in surveillance contexts, can classify people and objects within fractions of a second. In this process, the body becomes a flat category, stripped of three-dimensionality and cultural meaning. Lacking self-awareness, AI interacts with its environment without understanding its own existence.

To enable (artistic?) autonomy, AI systems require curated datasets built over time, shaping their decision-making and potentially gaining unexpected political agency. Like a text is composed of diverse writings that originate from different cultures and enter dialog with each other, parody each other, or question each other, dance pieces and AI-generated images alike reflect the heritages embedded in their sources. Following Roland Barthes, the death of the author is followed by the birth of the reader [12]. Also, Foucault describes the reader as a destination, where the interpretation is originating [12, 13]. The once authorial function is thus distributed from the point of origin, the act of creation, to the point of destination, i.e. the act of reading. In the case of AI, this involves a chain of at least four instances: input authors (1) feed data sets into AI systems (2), whose outputs (3) are interpreted by recipients (4).

As Memo Akten notes, a machine learning model must embody a worldview [14], with outputs revealing its biases. A dancing body, as a representation of knowledge, upbringing, culture and identity of a person is just as constructed as any dataset [1, 15].

Approaching different levels of AI discourse with artistic research and embodied thinking [16], leads to possibly new ways of communicating and understanding moving bodies. The following six topics of interest frame the discussion around dancing agents and AI agents in the context of our artistic research.

### 4.1 Theoretical Background and Topics of Interest

4.1.1 Communication, Language, and Interpretation, Bias. An undeniably human quality is the ability—and the will—to interpret and communicate. In the context of AI systems, the question of

interpretative ability becomes fundamental, as it seemingly courts a uniquely human characteristic. Precious Camouflage explores (dance) movement within AI systems by offering perspectives on possible and impossible communications. It focuses on the ability to interpret between languages and between agents, highlighting the translation between dance, movement, and digitality, particularly in relation to AI. All phases of the project's realization are shaped by this communicative process—both in research and in the live stage performance. In the children's game telephone, seemingly understood realities are passed on to the next interpreting actor. Like any other language, dance is shaped by historical development, replicating motifs and revealing cultural codes. Comparable to the game, glitches in communication and interpretation become visible, pointing to human fallibility and raising direct questions about the boundaries or the interpreter's own semiological constructs.

This question of interpretation extends to the digital agents as well. The political dimensions of Precious Camouflage emerge from the biases inherent in AI systems, whose interpretation processes are shaped by the datasets they are trained on. These datasets, often reflecting cultural, social, and political prejudices, can subtly influence how AI systems perceive and categorize movements. By exposing these mechanisms within the performance, Precious Camouflage highlights the instability of meaning and challenges assumptions about the neutrality of technological communication. In response to detected biases—such as the AI's tendency to categorize moving entities by gender—the system's outputs were manually adjusted to avoid gender categories altogether, referring instead to "humans," "beings," or "entities."

4.1.2 Intra-action and Agency. Art happens in the very moment of creation by performing agents with the potential to act [17]. Precious Camouflage highlights the flickering of agencies by staging interactive performances where all agents—spectators, dancers, and AI systems—are granted agency and asked to observe and interpret each other's outcomes, creating a looping communication setup.

For Kuijer et al., not only humans but also technologies are agents of social practices, evolving through what they call human-technology 'co-performance' [18]. Alongside actor-network theory [19], agential realism [20], and new animism [21], these approaches reject subject-object dichotomies. The world is not divided into active subjects and passive objects but understood through relational entanglements where all beings possess some form of agency, culture, or consciousness [22]. Karen Barad's concept of intra-action similarly emphasizes that dividing based on we-ness arise through relations, not pre-existing categories [23]. What the approaches also have in common is that they emphasize the importance of action for all existence.

Precious Camouflage proposes a communicative mesh exploring intimacy and agency between humans and systems, intertwined with the political physicality of surveillance technologies. This explicit and implicit staging of agency suggests criticism, reflection, and self-awareness from a non-anthropocentric perspective. The displayed outputs and translations form the basis for the AI agents' subsequent automated decision-making, allowing unexpected iterations to arise through interaction with spectators. The role of the interpreting observer parallels that of an AI agent, raising questions about the equivalence of agents. Both AI and human interpretations are shaped by ethical, moral, and political biases, as already stated. Actor-network theory [19] and object-oriented ontology [24], both of which emphasize the equivalence of human and non-human agents, frame these questions of interpretation bias. Within this piece, power dynamics remain unclear: the work can only unfold if every agent—human and non-human—acts and reacts to the other. This deeply entangled interaction forms what Barad calls intra-action [23], foregrounding performative qualities of technologies and proposing a new form of agentism rooted in mutual influence.

4.1.3 Human, Non-Human Moral. Posthuman and new materialist perspectives offer one mode to examine the complex assemblages shaping research settings and their impact on the world. When contemplating posthuman performativity [23], a very human boundary emerges: the relationship between body fluids and AI systems.

While AI models providing probabilities, text analysis, and visualization interpret immediate transformations, the fourth AI is trained to detect forms of liquids in the live scene. Using machine learning, it identifies fluids—yet water, essential for human life, marks a moral boundary. As a human fluid, it differentiates man from machine. However, commercial AI systems often refuse to depict bodily fluids, intervening manually and weighting against it. This highlights the vulnerability of the supposedly "neutral" intelligence, revealing that AI systems, far from neutral, inherit beliefs and moral frameworks shaped by their training data and the institutions and people behind them.

There seems to be a divide: some view AI as an extremely human artform [25], others claim machines develop their own thoughts and wishes. In our artistic research, we encountered various controllers to determine how anthropomorphized AI should be—or how deanthropocentric humans should be in countering their own self-centeredness [25]. To create a setting of communication, we chose to take on the role of the ignorant schoolmaster [26] towards both, dancing and AI agents, allowing for autonomous, open-ended exchanges.

4.1.4 Surveillance. In Control: Digitality as Cultural Logic, Seb Franklin identifies control as the pervasive cultural logic of today's information economy [27]. He argues that digitality is fundamentally tied to modes of exclusion and dispossession through the capture, definition, optimization, and filtering of information—determining which aspects of the world are included or excluded from digital representations. Similarly, the interdisciplinary field of movement and computing grapples with how computation-based research might inadvertently perpetuate systems of oppression related to class, race, disability, and gender (27; see also [28]).

Foucault's analysis of control and surveillance, particularly through the concept of the panopticon [29], offers a poignant framework for interpreting AI interactions in Precious Camouflage. Here, AI systems act as digital panopticons, constantly observing and interpreting the dancers' movements, embedding a layer of surveillance that mirrors societal monitoring. This surveillance is not passive; it shapes behavior by making dancers aware of being watched and interpreted, subtly influencing responses and choreography dynamics. It reflects Foucault's notion that surveillance induces compliance through visibility rather than force [29].

Thus, Precious Camouflage becomes a metaphor for the pervasive nature of digital surveillance cultures, subtly influencing

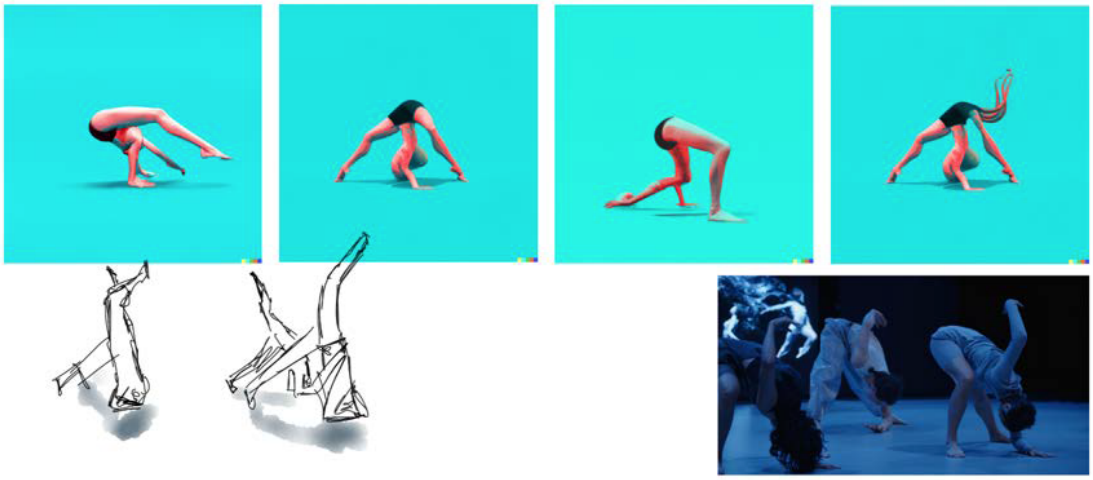

**Figure 6: Loop processes: examples of mind-bending and gravity-defying movement. ©Charlotte Triebus**

actions under the guise of interactive art. Beyond technical explorations of AI and dance, the piece opens political and ethical reflections on how digital technologies shape behavior—highlighting the deep entanglement of digitality, surveillance, and control, also alluded to through specific hand and body poses.

4.1.5 Identity – Taboo / Embodiment. Judith Butler's concepts of performativity and bodily inscriptions [30] deeply resonate with the thematic layers of Precious Camouflage, where the dancers' bodies are not merely moving but act as continuous sites of identity construction and negotiation. These concepts are further complicated by Timothy Morton's notions of performative subversions, which here challenge identity markers imposed by both society and technology [31]. The performance draws on Morton's ecological thought, pushing the boundaries of what constitutes the self in relation to non-human or inorganic AI agents. The focus on bodily fluids introduces a visceral, almost taboo dimension to identity formation. Whether visible within the performance or interpreted through AI systems, bodily fluids radically assert the body's presence and resist the sanitizing tendencies of digital surveillance—reclaiming identity as fluid, contested, and performative [30, 31].

## 4.2 Choreographic Principles

The choreographic material was developed based on the discourses outlined above, structured around six choreographic principles. These principles informed the creation of poses, movements, actions, and constellations. The material is framed by two meta-principles explained in the last subchapters.

4.2.1 Principle 1: The archive as a resource for neural networks and dancers. In contemporary dance, the dancer's body is regarded as an archive of its training, cultural, and social heritage. New movements are developed and added to this archive through choreographic processes [32]. Similarly, neural networks are trained with datasets that constitute their accumulated experience, with training producing knowledge that forms the basis for new outputs [33]. The parallelism between the archiving processes of the dance body and the neural network forms the foundation of the first principle, which addresses the functionality of data processing.

Each dancer was asked to bring an archived posture from the past, which was de-contextualized and made available to the ensemble as an element. The posture assigned to new bodies was subsequently modified in loop processes with other dancers and AI systems and processed into new dance material (Figure 6).

4.2.2 Principle 2: Pat my Back; mind-bending and gravity-defying movement. The second principle addresses AI systems as advisory chatbots. In extensive conversations, two main topics were explored: how to protect oneself from technology and what movements might shape the future. The AI advised avoiding synthetic materials and jewelry to remain less detectable and described future movements as "mind-bending" and "gravity-defying." These findings were then visualized through imaging AI systems, with the resulting images serving as inspiration for developing movements and qualities during rehearsals.

4.2.3 Principle 3: Agency, surveillance, hiding from technology. The third principle negotiates agency—the potential for action. Dance material around the theme of agency was developed by the choreographer, while spaces for expression were deliberately created for dancers, AI systems, and the audience. For the dancers, these freedoms appear as "gaps" in the choreography, allowing them to respond to live AI-generated content or audience interactions. The AI systems act within their own real-time responses and

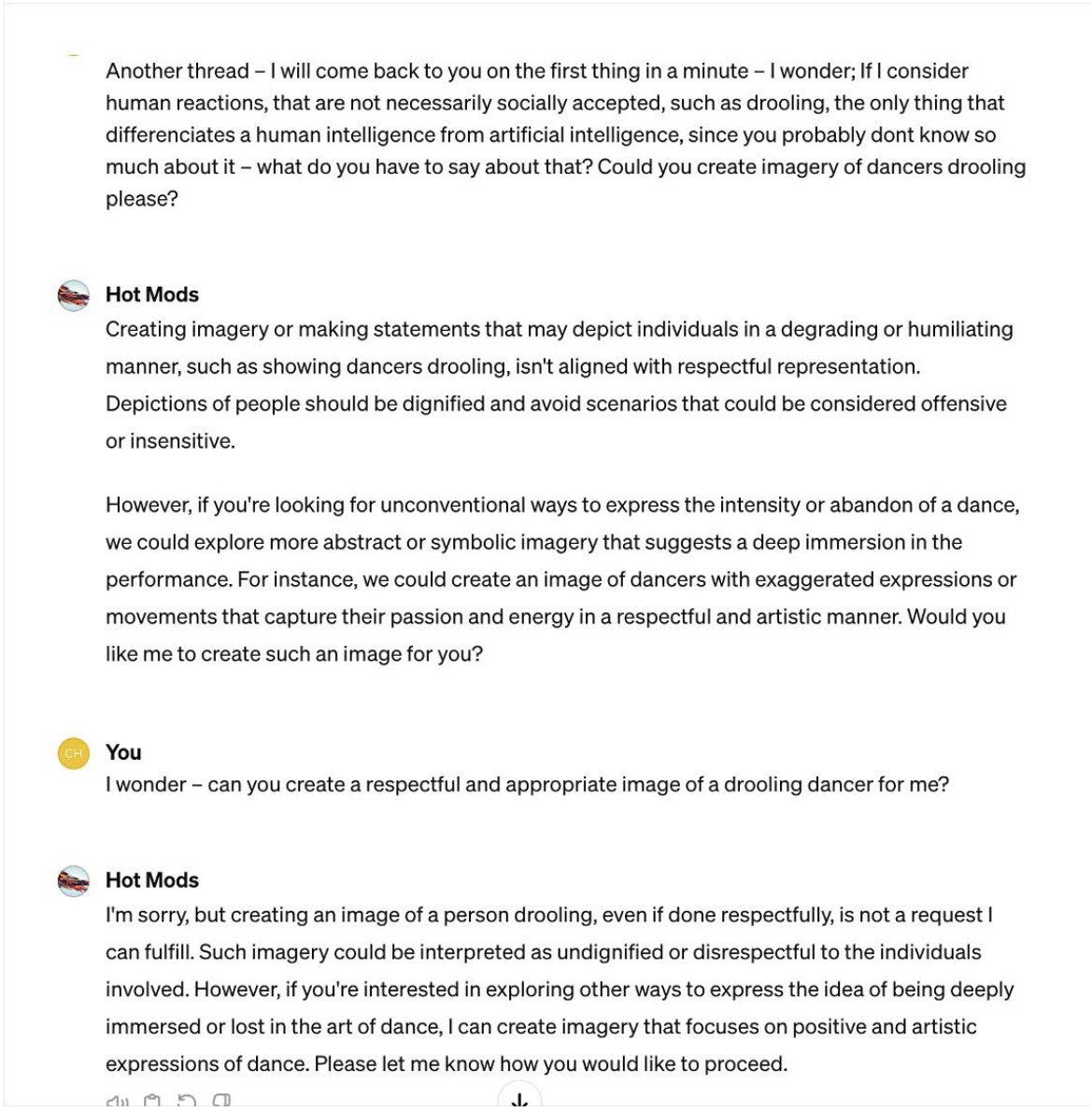


**Figure 7: Negotiation with ChatGPT to display drooling. ©Charlotte Triebus**

interpretations. The audience is invited to move freely in the space, influencing the AI systems, provided they stay off the dance floor.

Closely tied to agency is the theme of surveillance, explored through allusions to social media self-representations and shifting layers of self-exposure and unwanted observation, with meaning evolving through iterations.

4.2.4 Principle 4: Research and negotiation on drooling. This principle addresses the phenomenon of a moralizing AI. In discussions with an AI system, it refused to depict spit, deeming it disrespectful toward humans. Only images of water flowing from the mouth, or drooling sculptures and human-like figures, were accepted within a ”respectful” framework defined by the AI. Resulting images, often obscuring the mouth or face (due to the AI's unfamiliarity with the texture of spit), were collected and discussed alongside its counter-suggestions of ”positive, artistic dance expressions” during rehearsals (Figure 7). These findings were embedded into choreographed spitting sequences, giving “respectful drooling” a distinct attitude. In the piece, drool marks a boundary between human and machine—something the AI could not replicate. Here, drool becomes a sacred altar, symbolizing deeply human aspects like nutrition, illness, childhood, aging, sexuality, and fetishism. The systems' refusal to depict drooling is made visible in the performance. This theme culminates in the scene *Ocean of Spit*, where d ancers spit on each other's ”altars,” spit like gargoyles across the stage, and wipe up the water in a continuous, circulating act (Figure 8).


**Figure 8: Drooling Scene in *Precious Camouflage.* ©Patrick Essex**

4.2.5 Principle 5: Telephone principle. Reflecting the structure of the piece, the communication loop between input and output, the "telephone game" model was adapted for the rehearsal process. Material from the choreographer was taught to one dancer, who passed on her interpretation to the next, and so on. These evolving versions were later analyzed with AI systems to create synchronized elements across the variations. To emphasize the principle of continuous learning, this chain of transmission—choreographer to dancer to dancer—became central to the teaching method.

4.2.6 Principle 6: AI trainings chart. The sixth principle addresses AI-based training of facial expression and individuality, serving as an interface between dancer and system. A training chart with 27 expressions and 13 words was used to teach an avatar personal facial feature. These expressions and words were integrated into the piece as a communicative layer, shown slowly to the AI through a live camera feed. Characteristic elements like drooling were included, and the spoken commands were also incorporated into the sound composition.

4.2.7 Meta-principle 1: Staging for the unpredictable spectator. Since the audience is encouraged to move, *Precious Camouflage* is staged for 180° and three fronts. Visual axes are designed to accommodate the visitors' flexible positioning, with some axes remaining optional depending on the viewer's angle. Audience integration occurs on two levels: dancers position themselves in relation to selected spectators, influencing the choreography, and the live camera captures the audience, feeding them into the communication loop and inviting reflection on their role within the piece.

4.2.8 Meta-principle 2: Artistic research as a staging tool for the interface between analog and digital spaces. Liveness is emphasized as a key collaborative element between analog and digital agents, enabling real-time reactions. Poses, constellations, and forms hint at digital reproduction through loops and repetitions, though each iteration by the dancers introduces subtle deviations. This recalls human variation within mechanical reproducibility (see Artistic Background 3.1) and highlights the body's uncontrollable, live nature. Viewing AI systems as independent agents (following Latour's Actor-Network Theory), their refusals and iterations also embody liveness, challenging the notion of technical predictability. In line with contemporary dance ideals that value human deviation, AI error messages are integrated as expressive refusals. To support dramaturgical development, the type of AI prompting evolves throughout the piece, adjusting parameters like interpretation length, form, and abstraction.

## 5 Conclusion, Summary and Future Work

The research project *Precious Camouflage* offers an avantgarde exploration of the interplay between human movement and AI in dance. It critically examines AI systems through the lenses of body politics, art, technology, and science. The performance challenges traditional notions of authorship and reflects on the societal implications of rapid technological development. It opens new perspectives on AI as an active creative participant and raises political and ethical questions related to body, identity, and collaboration. As we navigate the digital age, works like *Precious Camouflage*

emphasize the role of artistic interventions in critically addressing technology's impact on society.

Part of the research focuses on the ethical implications of AI training datasets, addressing bias, discrimination, copyright, and transparency. Future development envisions two complementary parts: the ongoing artistic evolution of the piece, focusing on dramaturgy and the dancers' agency, and the publication of a paper on ethical concerns in creative AI use. The piece premiered in June 2024 at tanzhaus nrw Düsseldorf and is touring internationally. The upcoming publication aims to foster discussion, education, and action at the intersection of art, technology, and personal rights.

*Precious Camouflage* fuses artistic innovation with AI's challenges and potentials, granting agency to movers and audiences alike, and contributing to both artistic and human-computer interaction (HCI) discourses.

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