/prÁxIs
SIIMI/2025
XII simpósio internacional de inovação em mídias interativas
XII simposio internacional de innovación en medios interactivos
XII international symposium on innovation in interactive media
MAI
21-23
SP/BR

CRAFTING FRICTIONS in art & technology

20 years of Interface Cultures at University of Arts Linz/Austria[1]

CRAFTING FRICTIONS em arte e tecnologia
20 anos de Interface Cultures na Universidade de Artes de Linz/Austria

Univ.-Prof.in Mag.a Manuela Naveau, PhD[2]
manuela.naveau@kunstuni-linz.at
Alexander Wöran[3]
alexander.woeran@ kunstuni-linz.at

Abstract
The digital age confronts our societies with manifold challenges and opportunities, which has become particularly apparent with the rise of artificial intelligence (AI). Yet, besides all the talk about its novelty, it is neither decoupled from previous developments, nor created in a vacuum. Important issues like power relations, fairness, transparency, social justice, etc. have been raised by scholars, activists, and artists long before generative AI models became suitable for masses – from the intricacies of interface design to exploitative use of data to economic strategies of the digital industries to the reinforcement of existing inequalities via technology, among others. Tackling these requires input of and collaboration between diverse actors and institutions. Here, we exemplify how digital artists can contribute to the discourse by presenting our approach to AI at the department for Interface Cultures (Univ. of Arts Linz).

Keywords: Interfaces, Digital Art, Critical Data, Data Feminism, Intersectionality

1. Introduction and assessment: From Interface to AI

The master program *Interface Cultures* at the University of Arts Linz trains students in the field of media art/digital art. More specifically, it deals with the interfaces between our analog and digital world from both a technical and cultural perspective. The combination of technical understanding and artistic approach that is embedded in the curriculum enables students to adopt a transdisciplinary, interstitial stance,

[1] This article is partly based on a paper published previously in German in the course of a conference (Naveau, M., & Wöran, A., 2024)

[2] Manuela Naveau (PhD), is a university professor, an independent curator and an art-based researcher. She developed the Ars Electronica Export department, which she was heading for almost 18 years. Since 2020, Manuela Naveau has been a university professor for Critical Data at the Interface Cultures Department at the University of Arts Linz in Austria and initiated the Critical Data Research Group since then.

[3] Alexander Wöran is a university assistant at the Interface Cultures department of the University of Arts Linz. Previously, he worked for Ars Electronica where he led the editorial team of the festival and conceptualized exhibitions for the museum. As an associate at the Center for Image Sciences (Danube Univerity Krems) he developed tools for image databases and researched strategies to archive media art online.

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

which allows them to formulate questions from spaces in-between, such as exploring the relationship between physical and virtual reality, or exposing the hidden processes that lie behind the visible interfaces of computer-based systems. Precisely because we are determined to counter the dominance of dichotomies in our thinking, we find ourselves in a culture of the in-between: *Interface Cultures*.

The master programme was established in 2004 at the University of Arts Linz, building on the exploration of artistic human–machine interaction that had been taking place more prominently since the 1990s (and of course drawing inspiration from outstanding artistic achievements of the 1960s, 70s and 80s). These developments were made possible by the renowned media artists Christa Sommerer and Laurent Mignonneau, who founded the department and shaped its vision. It is regarded as one of the first interdisciplinary and transdisciplinary programmes to combine media/digital art with computer science and engineering.

Since the inception of the master programme, students have engaged critically with communication technologies, interactive systems, and sensor-driven artistic environments, as well as with playful strategies to liberate themselves from the digital control mechanisms of networked realities. From the 2010s onward, growing attention has also been given to the strategies of social media, along with practices of visualizing, sonifying, and materializing digital data, and making its underlying infrastructures visible. This led to the new installed professorship *Critical Data,* which was established at the University of Arts Linz as one of the first art-based professorships on this topic, dedicated to the artistic and scientific exploration of data and data-processing systems through diverse theoretical and practical frameworks. These include technical, ethical-philosophical, political-economic, and temporal-spatial perspectives, particular attention is paid to issues of discrimination and systemic disadvantage. With the rapid advancement of AI technologies—ranging from large-scale platforms to embedded systems—students are artistically investigating the extent to which disadvantage and discrimination are woven into these systems by making them perceptible via a multitude of artistic methods. In this context, adopting a feminist perspective offers young artists a means of developing countercultural practices within HCI (human computer interaction) research, that we would like to highlight with this paper.

Questions of artistic human–machine interaction are at the center of many researchers' work. On the one hand, we find critical and analytical texts that trace

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

the evolution of the functional Graphic User Interface as an optimization tool for human–machine communication (e.g., Fuller, 2003; Andersen & Bold, 2011, 2018) and up to code, networks, and protocols as interfaces that structure experience (e.g., Galloway, 2012). On the other hand, scholars have examined interface aesthetics (e.g., Manovich, 2007; Cramer, 2011) as well as the interface as a site of artistic interaction (e.g., Sommerer/Mignonneau/King, 2015). Beyond the well-known essays that have shaped feminist thought on technology – such as Donna Haraway's *Cyborg Manifesto* (1985) and Sandra Harding's *The Science Question in Feminism* (1986) – Alison Adam's *Artificial Knowing: Gender and the Thinking Machine* (1998) offered an early and important contribution, focusing on feminist technoscience with particular attention to gender and artificial intelligence. Equally significant is the work of Wendy Hui Kyong Chun, whose publications *Control and Freedom: Power and Paranoia in the Age of Fiber Optics* (2008), *Programmed Visions: Software and Memory* (2011), and *Discriminating Data: Correlation, Neighborhoods, and the New Politics of Recognition* (2021) provide a critical foundation for developing a feminist reading of interfaces and interface cultures. Chun less examines the political power of interfaces and the possibilities they offer for artistic and political intervention, but rather focuses on their political context itself. She explicitly links computers and interfaces with power relations and control: "Computers [...] are mediums of power. This is not only because they create empowered users, but also and most importantly, because software's vapory materialisation and its ghostly interfaces embody [...] a way to navigate our increasingly complex world." (Chun, 2011, p. 2)

From the perspective of the inscription of power, the hegemony of male cisgender perspectives in hardware and software interfaces becomes clearly apparent. This contrasts with the queer-feminist demands for performativity, emotionality, participation, fluidity and ephemera that Chun brings to bear in her critique of interfaces. She refers, among others, to Brenda Laurel (US), one of the first computer artists, VR game designers and researchers, who recognised above all the performative and participatory aspects of interfaces. In this vein, she said:

"Computers are theatre. Interactive technology, like drama, provides a stage for the representation of coherent realities in which actors set actions with cognitive, emotional and productive properties." (Laurel, 1990, p. 259)

With *PlaceHolder*, which won an award in the Interactive Art category at the 1994 Prix Ars Electronica, she and architect, videographer and interaction designer Rachel

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

Strickland presented an artwork and research project in which the computer is understood as an extended space for action – a virtual theatre space. Laurel took a significant step further in her investigation here and opened up the interface and virtual space to other actors, which now could be visited by two people in different locations at the same time (Naveau, 2022).

As one of the first computer-based and participatory VR works in which a virtual space could be jointly designed using a special interface, *PlaceHolder* allowed users to create, design and modify narratives. They could leave behind symbols, pictograms, rock carvings, inscriptions on walls, footprints or sound tracks. Subsequent visitors were then able to query and regroup fragments from previous narratives and create new traces (Laurel, 1994).

But here, too, the form of participation was guided, manipulated and artificial: "computer activity is artificial and should remain so," Brenda Laurel is quoted by Wendy Chun (Chun, 2011, p. 64). Outside of art, this predetermined framework is all too often obscured in order to avoid critical questions from consumers. Chun therefore not only refers to 'navigation,' 'control' and 'blackboxing' in relation to interfaces, but also clearly points out the vulnerability that these interfaces create for users:

"Indeed, the interface is haunted by processes hidden by our seemingly transparent GUIs [Graphical User Interfaces] that make us even more vulnerable online, from malicious 'back doors' to mundane data gathering systems." (Chun, 2011, p. 60)

Blackboxing, manipulation, control, non-transparent processes – what Chun wrote about interfaces back in 2011 sounds exactly like how we talk about AI more than ten years later.

Now, as back then, the question is what agenda – whether conscious or unconscious – is revealed in the interfaces of this world, what ideologies they convey, and how they communicate this loudly, quietly, or not at all. How can this approach to interfaces be expanded with regard to developments in the field of AI, and what impact do these have on our everyday reality? Last but not least, the question arises as to what kind of counterculture we need for the transformation of technical systems in order to achieve a change in perspective, behaviour, action, writing and documentation as well as understanding and communication. This applies in particular to the field of data science, which, according to Dan McQuillan, is characterised by a 'new normativity' that can only be dismantled by a counterculture

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

that first and foremost critically examines the framework conditions on which data science is based (McQuillan, 2018, p. 254).

At the *Interface Cultures* department our response to the current developments is an artistic approach to critical data. Even though data science talks about critical data that needs to be found, since neoliberal, computer-based logic can only be about optimisation, the *Critical Data* course and the *Critical Data Research Group* look for exactly those gaps and weaknesses. In order to question the conditions of the data economy, to disrupt it, it must first be better understood. Hence, the investigation of less noticed data, the 'waste products' that accumulate during moments of friction in the digital cosmos, is given the greatest attention, they often provide crucial context and insights on implicit assumptions, values, and focal points.

The creative approach of artists to the digital world can make a valuable contribution here. Their artistic methods allow for a freer engagement with data processing systems in order to explore essential topics and communicate them to a broader audience. Their task is not merely to reveal and comment on how digitalisation systems work, but also to use artistic means to make tangible how they do not work. *Critical Data* always keeps the socio-cultural use of technology in focus and attempts to explore the artistic worlds between promises, manipulation and conspiracies, between interface and digital ether.

2. Crafting Frictions: Feminist AI at Interface Cultures and the Critical Data Research Group

Before presenting the artistic works on the topic of critical data, two terms must be defined: What do we mean by feminism? And what do we mean by data? For either, the main reference is the publication 'Data Feminism' by Catherine D'Ignazio and Lauren F. Klein, which is both the starting point and theoretical framework for the artistic exploration of critical data at the *Interface Cultures* department. They understand the term feminism to mean "the diverse and far-reaching projects that name and challenge sexism and other forces of oppression, as well as those who seek to create a more just, equitable, and livable future" (D'Ignazio & Klein, 2020, p. 6). From their perspective, the term data is broadly defined and refers not only to numbers, but rather to any kind of information 'that is systematically collected,

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

organised and analysed,' which can also include colours, sounds, words or stories (D'Ignazio & Klein, 2020, p. 14).

However, 'data feminism' should be seen in the tradition of many female researchers who are also essential to our understanding of critical data. Notable examples include Kate Crawford and danah boyd with their article *Six Provocations for Big Data* (2011) in which they draw attention to the dangers of unreflective data collection that lacks diversity or queer-feminist technologists and researchers such as Meredith Whittaker, timnit gebru, Harini Suresh, Os Keyes, and Kerry McInerney. Their work on discrimination through technology – from facial recognition software to the reproduction of existing power constellations through software and hardware – has had a significant influence on us.

In any case, the cornerstones of our *Critical Data* course are the seven principles of data feminism as formulated by D'Ignazio and Klein in their book: (1) Examine Power, (2) Challenge Power, (3) Elevate Emotion and Embodiment, (4) Rethink Binaries and Hierarchies, (5) Embrace Pluralism, (6) Consider Context, (7) Make Labour Visible. Together with the students these principles are reviewed and expanded upon for artistic exploration and in order to further questioning data and data processing systems as 'instruments of power.' The other five principles that have been formulated in joint discussions so far are: (a) Questioning Common AI Imaginaries and Narratives, (b) Embracing Conflict and Friction, (c) Neighbouring – Data and Community, (d) Minding and Finding the Gaps in AI, (e) Deconstructing Homophily Circles.

Reflection on this list is an ongoing process of observation, reformulation and supplementation. In the following, works by our students and the *Critical Data Research Group* are presented to illustrate the expanded principles through artistic positions. These examples are not always clearly attributable to only one principle as several points are often negotiated simultaneously.

2.1. Questioning Common AI Imaginaries and Narratives: The Archive of Unnamed Workers, Alexia Achilleos & Theopisti Stylianou-Lambert

The Archive of Unnamed Workers (2022) by Alexia Achilleos and Theopisti Stylianou-Lambert is an artistic investigation of (post-)colonial power structures reflected in generative AI. For the research, forty fictional portraits of Cypriot workers were initially created using the DALL.E 2 diffusion model, paying homage

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

to the countless unphotographed workers who contributed to Cypriot archaeology but remain nameless and unknown to this day. The results showed a clear tendency towards Orientalisation from a Western perspective; 'Cypriot women' were 'represented' by the algorithm through stereotypical interpretations that have little in common with the historical facts of past archaeological research in Cyprus. What has not been documented and trained is simply supplemented by clichés in the model. The question arises as to how to deal with information gaps caused by missing or distorted records in order to counteract the one-sided, colonial historiography that continues to this day. Should gaps in historical archives be contextualised or even 'filled in'? How can images be created that more accurately reflect historical realities but cannot be reconstructed from museum collections? In the case of *The Archive of Unnamed Workers*, this means the Cypriot population who worked at the excavation sites, rather than the white-haired male archaeologists who smile from museum archives. Through their artistic intervention Stylianou-Lambert and Achilleos have traced precisely these gaps, which are – hopefully – contextualised in the museum but filled with stereotypes in AI. Using a specially trained Generative Adversarial Network (GAN), they ultimately created photographs of 106 fictional workers, which were produced on 35 mm glass slides and cropped like passport photos. Visitors of the exhibition can view these through peepholes in a stylised black box installation, seeing representations of Cypriot workers who never lived, but who nevertheless point to their existence. By addressing the discrepancy between documentation and historical fact, Achilleos and Stylianou-Lambert have not only succeeded in artistically questioning one of the colonial narratives reinforced by AI. Rather, they also encourage a more general reflection on 'the transfer of historical power asymmetries' (Achilleos & Stylianou-Lambert, 2022, p. 264) to technology, which can demonstrably be exacerbated by AI data sets (Abebe et al., 2021).

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

Alexia Achilleos & Theopisti Stylianou-Lambert: The Archive of Unnamed Workers (photo: Theopisti Stylianou-Lambert).

2.2. Embracing conflict and friction: Unlearning Gender, Jelena Mönch & Miguel Rangil

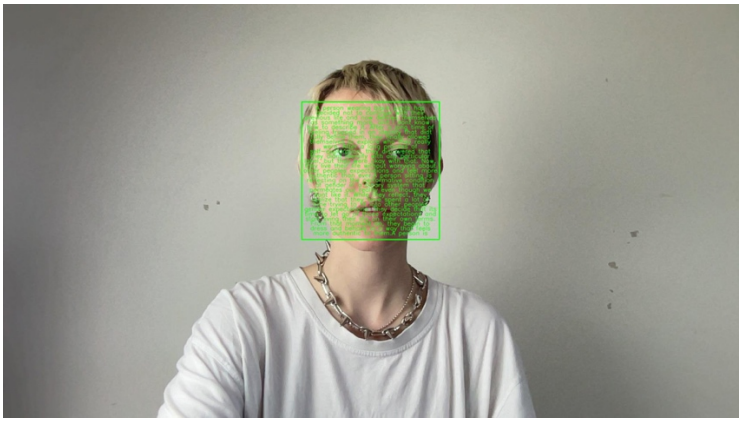
Unlearning Gender (2024) by Jelena Mönch and Miguel Rangil is a critical examination of the algorithmic-binary standardisation of gender. The interactive installation exposes the conflicts and points of friction inherent in automatic gender recognition algorithms (AGR) and aims to "break with the techno-social binarism embedded in the software" (Rangil). As a strategy of resistance, the artists use symbolic hacking, in this case of a computer vision interface, to experiment with alternative forms of categorisation.

The interaction begins as soon as a person's face is captured by the algorithmic eye. On a screen, visitors see the 'familiar' output of facial recognition algorithms, in which faces are framed in boxes labelled 'male' or 'female'. This abstract flattening is questioned on two further screens by more poetic representations that play with conventional aesthetics and express a more complex approach to the topics of identity and gender. On one of the other screens, for example, the viewer's face is 'overwritten' with poetic texts, referring to the deep entanglement of body, identity, language and power. One finding of Mönch's artistic research was that in addition to physical characteristics, stereotypical gender performance also plays a role in

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

categorisation by AGR algorithms – jewellery, make-up, clothing, but also how a person looks at the camera, all these aspects influence the algorithm's 'decision' (Mönch, 2024).

Unlearning Gender is the logical artistic development of a tension inherent in AGI algorithms, which seem to hesitate in their categorisation between male and female, do not make clear decisions, constantly change the percentage weightings, and tremble with every movement, every change in facial expression, as if they suspect a spectrum where their programming does not allow them to. Mönch and Rangil not only explore how artistic resistance can be offered to this binary system in technical systems, but also address the fluidity of categories, their dependence on social conventions, and the possibility of actively shaping them.



Jelena Mönch & Miguel Rangil: Unlearning Gender (photo: Jelena Mönch).

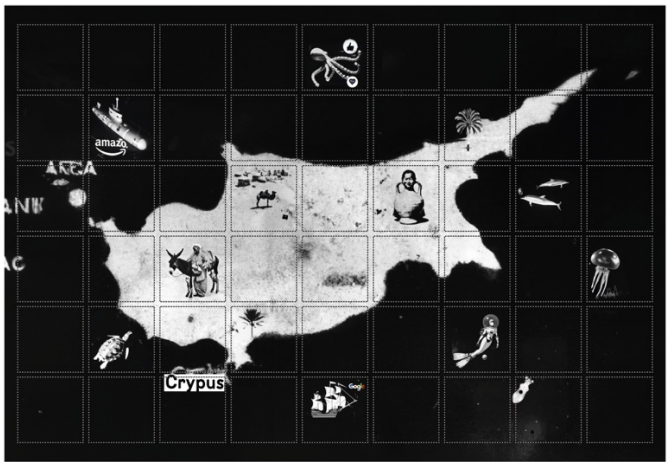
2.3. Neighbouring – Data and Community: The AI Colonialism Board Game, Alexia Achilleos

The AI Colonialism Board Game by Alexia Achilleos is an artistic investigative board game that deals with the conditions of a speculative Cypriot AI and seeks to find, negotiate and define its content framework in a participatory manner with the players. The idea of creating an AI that describes a cultural space raises a number of critical issues that are explored in this game. Given the colonial heritage of the island, which is divided into a Turkish and a Greek part and has yet to find its self-confidence, the first question that arises is: What does a Cypriot AI actually mean? What would it have to do to counteract the hegemonic tendencies in the digital

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

space? How could the AI be trained without gross distortions given the island's difficult history? And who should be allowed to train such an AI in the first place? Achilleos also brings up possible positive effects, for example, letting players think about what neighbourhood effects an AI like this could have, both on the Greek and Turkish sides. What level of trust and what form of cooperation would be necessary to jointly develop a Cypriot AI?

Inspired by intersectional and feminist approaches as well as postcolonial thinking, the game encourages reflection from the perspective of a region that finds itself on the margins of the global AI race. In a playful way and through a local Cypriot perspective, *The AI Colonialism Board Game* highlights critical issues related to the technology and raises awareness among participants about power asymmetries in the field of AI. Achilleos' project illustrates how joint reflection on data and diversity can address regional issues and promote community building even in difficult situations.



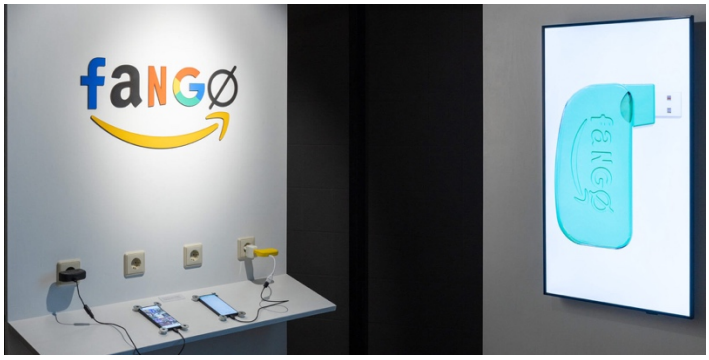
Alexia Achilleos: The AI Colonialism Board Game
(photo: Alexia Achilleos).

2.4. Minding and Finding the Gaps in AI: FANGØ, Martin Nadal

Martin Nadal is a Spanish media artist, computer scientist, engineer and student at *Interface Cultures*. His project *FANGØ – A Facebook Amazon Netflix Google Obfuscator* – critically examines opaque data collection practices for capitalist exploitation, or, in a broader sense, what Shoshana Zuboff has termed surveillance capitalism (Zuboff, 2019). Instead of looking for gaps in the systems, Nadal attempts

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

to create them by taking the logic of the exploitation industry to absurd extremes. He offers a hardware and software solution that uses a mobile phone charger modified with a microcontroller to dial into the network and take control of the connected smartphone. By sending arbitrary queries to Amazon, YouTube, Google and other search engines and platforms, he deceives data brokers in their data collection and leaves behind manipulated data that has been devalued, due to the artificially introduced noise they can no longer be used to train AI models. This gives people a tool allowing them to decide whether their data traces can be read and used for training purposes or not. His work, which is available as open source for replication, was awarded the European Union's S+T+Arts Prize in 2023 and presented at the Ars Electronica Festival 2023.



Martin Nadal: FANGØ (photo: Werkleitz, Michel Klehm).

2.5. Deconstructing Homophily Circles: (Very) Neural System, Martina Pizzigoni

Birds of a feather flock together, even in an algorithmically calculated world as Wendy Chun has demonstrated (Chun, 2018). Italian student Martina Pizzigoni addresses the problem of the reinforcement and consolidation of hegemonic, cisgender approaches in digitally calculated realities with their work *(Very) Neural System* (2024). The queer artist created an AI doppelganger of themself based on personal data from large companies, it acts as a fully interactive meta-human that immerses visitors in the intricacies of identity construction at a time when the digital and physical worlds are increasingly merging. The interactive installation allows visitors to communicate with the digitally embodied bot – similar to Martina Pizzigoni's personal assistant – via a microphone. *(Very) Neural System* takes up the

idea that bodies “function as the material basis of an inscribing technological rationality” (Bath & Bauer, 2005, p. 11) and expands on the question of the inscription of materiality in the digital realm through avatars or other smart assistants. The visual bot responds to visitors' questions and draws them further into their thoughts by ending its statements with a counter-question. Questions tinged with queer ideas, feminist openness to criticism and sensitivity, as well as a code that provides completely transparent information alongside the installation about what the system hears and what reaction this triggers are the key features of the master's student's extraordinary installation. Their sensitive handling of questions about identity and the highly professional design of the meta-human Martina also convinced the jury of the newly established and first-ever Campus Award of Ars Electronica Festival 2024, where Martina Pizzigoni received an Honorable Mention.

Martina Pizzigoni: (Very) Neural System (photo: Manuela Naveau).

3. Summary

Based on the discussions in this paper, it should be noted in conclusion that communication technology is inherently linked to issues of manipulation, the consolidation of existing power structures and the obstruction of diversity and pluralism, and this has been the case since before the start of a broader public discourse on AI. Since the invention of the computer mouse in 1968 by Douglas C. Engelbart and the advent of the personal computer in the 1980s, the computer, with

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

its interfaces as an intertwining of hardware, software and its (network) cultures, has developed from a command-based instrument of the military to a user-friendly medium with all its hegemonic inscriptions and technicalities (Chun, 2011, p. 59). Now that AI has been introduced into society in the form of 'propaganda platforms' such as Chat GPT from Open AI, the public has also developed a (more critical?) interest, and questions about power relations and bias are being raised in the journalistic arena. Even though there is a lot of interest and hype surrounding AI and we feel caught out when we are seduced by AI, the fundamental problems are still the same – but they have become more acute. This makes it all the more essential to counteract the prevailing power dynamics and advocate for a fair representation of social diversity in technological systems. *Critical Data* at the *Interface Cultures* department at University of Arts Linz attempts to make an artistic contribution that directly addresses interfaces. The works presented reveal their non-neutrality using concrete, real-life examples (*Unlearning Gender*, *The Archive of Unnamed Workers*), often with a decidedly activist stance (*FANGØ*, *[Very] Neural System*, *The AI Colonialism Board Game*). To this end, interfaces are hacked, modified as far as possible, or sometimes completely recreated. *The AI Colonialism Board Game* in particular shows how complex digital topics can also be addressed via the analogue interface of a board game in order to raise awareness.

We hope that this paper has shown how digital art can draw attention to critical issues relating to AI in its own way. In order to better incorporate diversity and plurality into AI systems than in previous interfaces, it is necessary for a wide variety of disciplines, institutions and groups of people to join forces.

It may be a difficult path, but systems are not set in stone; they are malleable. To counter feelings of hopelessness, we would therefore like to conclude with Karen Barad and their reference to systematic indeterminacy:

"No one understands these strange quantum things. (...) What could be queerer than an atom? And I don't just mean strange. The very nature of an atom's being, its identity, is indeterminacy itself." (Barad 2015, p. 145)

References

Abebe, R., Aruleba, K., Birhane, A., Kingsley, S., Obaido, G., Remy, S.L & Sadagopan, S. (2021). Narratives and Counternarratives on Data Sharing in Africa. *Proceedings of the 2021 ACM Conference on Fairness,*

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

Accountability, and Transparency, *New York*, *USA*, 329-341. https://doi.org/10.1145/3442188.3445897

Achilleos, A. & Stylianou-Lambert, T. (2024). The Archive of Unnamed Workers. Examining the Legacy of Colonial-Era Photography in AI. In L. Soutter & D. Wooldridge (Eds.), *The Routledge Companion to Global Photographies* (pp. 261–271). Routledge. https://doi.org/10.4324/9781003368328

Andersen, C. U. & Pold, S. B. (2011). *Interface Criticism: Aesthetics Beyond the Buttons*. Aarhus University Press. https://doi.org/10.2307/jj.608168

Bath, C. & Bauer, Y. (2005). Materialität denken. Positionen und Werkzeuge. In C. Bath, Y. Bauer, B. Bock von Wülfingen, A. Saupe & J. Weber (Eds.), *Materialität denken. Studien zur technologischen Verkörperung – Hybride Artefakte, posthumane Körper* (pp. 9-30). transcript Verlag

Barad, K. (2015). *Verschränkungen*. Merve Verlag

Boyd, D. & Crawford, K. (2011). Six Provocations for Big Data. *Proceedings of the Symposium on the Dynamics of the Internet and Society, Oxford, England*. http://dx.doi.org/10.2139/ssrn.1926431

Chun, W. H. K. (2011). *Programmed Visions. Software and Memory*. The MIT Press.

Chun, W. H. K. (2018). Queerying Homophily. In C. Apprich, W. H. K. Chun, F. Cramer & H. Steyerl (Eds.), *Pattern Discrimination* (pp. 59–97). meson press. https://doi.org/10.25969/mediarep/12350

Chun, W. H. K. (2021). *Discriminating Data. Correlation, Neighborhoods, and the New Politics of Recognition*. The MIT Press

Cramer, F. (2011). What Is Interface Aesthetics or What Could It Be (Not)?. In C. U. Andersen & S. B. Pold (Eds.), *Interface Criticism. Aesthetics Beyond the Buttons* (pp. 117-129). Aarhus University Press. https://doi.org/10.2307/jj.608168

D'Ignazio, C. & Klein, L. F. (2020). *Data Feminism*. The MIT Press.

Laurel, B. (1990). Zur Dramatischen Interaktion. In G. Hatthinger, C. Schöpf & M. Russell (Eds.), *Ars Electronica 1990. Virtuelle Welten, Band 2* (pp. 259-263). Landesverlag.

Laurel, B. (1994). PlaceHolder. Ars Electronica Archive. https://archive.aec.at/prix/142197/

Manovich, L. (2007). *Information as an Aesthetic Event*. https://manovich.net/index.php/projects/information-as-an-aesthetic-event

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.

McQuillan, D. (2018). Data Science as Machinic Neoplatonism. *Philosophy & Technology*, 31(2), 253-272.

Mönch, J. (2024). *Unlearning Gender. (Re)using Computer Vision for Dissolving the Social Construct of Gender through Artistic Practices*. [Master-Thesis, University of Arts Linz]. PHAIDRA. https://doi.org/10.57697/8EGN-AJ28

Naveau, M. (2022). Interface Cultures – Imaginary Worlds Viewed Through Local Glasses. In A. Weidinger, F. Müller-Nittel, M. Reindl (Eds.), *Meta.space. Visions of Space from the Middle Ages to the Digital Age* (pp. 485-493). DISTANZ Verlag.

Naveau, M. & Wöran, A. (2024). Feminist AI at Interface Cultures Linz. Wenn Digitale Kunst hegemoniale, cisgender Weltansichten dekonstruiert. In C. Bath, J. Bünning, C. Radermacher & J. Wustmann (Eds.), *Journal Netzwerk Frauen und Geschlechterforschung NRW*, (55), 53-60. https://doi.org/10.17185/duepublico/82754

Sommerer, C., Mignonneau, L. & King, D. (2015). *Interface Cultures. Artistic Aspects of Interaction*. Bielefeld: transcript.

Zuboff, S. (2019). *The Age of Surveillance Capitalism. The Fight for a Human Future at the New Frontier of Power*. Public Affairs (The Hatchett Group).

ISSN 2358-0488 – Anais do XII Simpósio Internacional de Inovação em Mídias Interativas. Práxis. ROCHA, Cleomar; CARVALHO, Agda; SILVA, Teófilo Augusto da; ARANHA, Renan (Orgs). São Caetano do Sul: Media Lab / BR, IMT, 2025.