

Algorithmic Frontiers, the Exhibit

Curator's Notes

In the AI adoption discourse, the debate has polarized, opposing those who offer hope without borders to those who offer awareness and vigilance. Reality and hope shouldn't be opposed. Digital citizenry in the age of AI requires both. This is particularly true in the use of generative AI for cultural content creation and art. *If we are to recognize AI Art as Art, it should at the very least have a social responsibility. It should « raise questions, puncture pieties, encourage empathy, and offer alternative visions for the future. »* It should be the new resistance, the avant-garde. Partnerships and funding policies should “*strengthen the hands of independent thinkers and creators*” (From [Foreign Affairs](#), February 2024). It is in this context that I launch the Algorithmic Frontiers Interactive Exhibit. The creation of the 12 pieces started as a poetic exploration of abstract algorithmic representations in February 2020. The Algorithmic Frontiers artwork is now more like graffiti on the walls of AI. Its rawness and imperfections shed light on the challenges that lay ahead before we can dare say that Generative AI is art and democratizes anything at all.

The Algorithmic Frontiers includes 12 Digital Stills. The art pieces explore algorithmic art, inspired by data contributed by women/womxn from over 40 countries. The goal of the Exhibit is to counter gender, racial and cultural biases in AI and engage a broader public in conversations about the ethical, legal, cultural, economic, and political implications of Generative AI. It also aims to facilitate the understanding of both the technical and the social policy implications of Generative AI, using a critical approach to AI Art and leveraging it as a civic engagement medium. It is designed to improve confidence in our collective power to intervene in the socio-technical pipeline of AI development and governance.

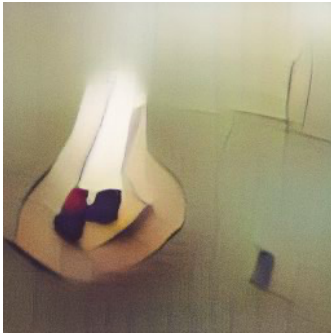
The 12 art pieces embody the Art Impact AI curatorial best practices (8). Click [here](#) to read what those are. One of those principles is not inducing fear and give those who view, visit, or take part in an art project, a sense that they have control over AI's impact on their lives. Both as an artist, as a woman, I wanted to be in an exhibit where I felt safe. For that reason, I avoided including algorithmic outputs (images) that were shockingly discriminatory or objectifying. You will be exposed to such outputs in the more educational material. If you invite me to give a talk or organize a workshop, we can tailor the content to your needs. I hope I managed to create a space where we can learn together without having to be exposed to biased and harmful content.

You can contact me to organize an in-person exhibit to engage your audiences in rich and constructive conversations about AI and its intersection with art and culture. Remember to go to the Sign and Connect section to share your thoughts and join the conversation!

*Please note that a document entitled " Algorithmic frontiers: curator's notes and full tour guide " is also available on the site.

Sincerely,
Valentine Goddard, February 26th 2024

Collaborative Data Sourcing: PearAI.art



On February 14th 2020, Valentine Goddard prompted RunwayML with the words “Women. Beauty. Imperfection.” And the result was an abstract kind of pear. That pear triggered many questions and the exploration of AI through art projects took a deeper dive. A team came together and the [PearAI.Art](#) data collection application was born and launched in May 2021. The PearAI.art app invites users to contribute 9 words per person redefining gender and beauty and countering bias in AI.

That team wrote a paper to highlight a collaborative and interdisciplinary process in Responsible AI. Although the technical explanations about how text-to-image works is outdated, the rest is still very useful, and you [can find it here](#).

That data set has 3 different data buckets prompted by these questions:

1. Gender: What does it feel like, to you, to be a woman, identify as a woman or as a fluid being embracing elements of femininity?
2. Beauty: What does beauty represent to you. What would you tell your mother, daughter, sister, best friend about what it means to be beautiful?
3. Imperfection: What illustrates moments, or objects, of imperfection, bearing in mind that history and culture have shown that imperfection can be the cornerstone of aesthetics (*wabi sabi*), or again, the mother of all inventions (necessity)?

We are grateful to have received close to 3000 words describing notions of gender, beauty and imperfection, hereafter called the “Words.” We used both AI and human intelligence to extract the most meaning and impact from this data set.

You can explore the Words and create your own art by visiting the Explore and Play Section.

Algorithmic Frontiers: Observations and Key Themes

- Many words about beauty were about imperfection and vice versa. Perhaps that was caused by our biased question that suggested imperfection could be “*the cornerstone of aesthetics (wabi sabi), or again, the mother of all inventions (necessity)*”?
- The Words highlighted the importance of emotional connections in the human experience and the human capacity to overcome challenges and difficulties; they underscored an acknowledgment of the natural world and the impact of human actions on the environment; they emphasized the value of embracing one's unique qualities and celebrating personal authenticity; they highlighted issues of power and equity.

The human curator’s interpretation and analysis

I found it useful to use ChatGPT4 as well as our own AI (RAG) trained chatBot to understand which themes were most present, or less so, in the 3000 words, including some in French, Spanish and Japanese. However, my heart, brain, creative neurons pursued their own path, a path that meanders. Words that touched me lived in my head for months, macerating, sometimes twinkling like a distant star, sparking new thoughts. I wrote many of them in my paintings. They fed me. They fed the art. They fed algorithms. They were the blood in the veins of this exhibit. They rooted the art pieces into something broader than what can be seen in the 12 pieces.

Of those meanderings and macerations emerged 3 core sources of inspiration.

1. Mer Intelligente. Ecofeminism. Reconciliation.

The first thing that struck me was how many Words related to nature were in the 3 buckets. I grew up on a northern seaside, the Saint Lawrence River, in a small francophone Catholic village of fishermen. Mi'kmaq people call the river "*Magtogoek*," or "*the path that walks*". I used to deliver the newspaper along its iced-up shores and watch the Milky Way and dancing Northern Lights, or enjoy the yellow and blue contrast in the fall. My mother bought fish caught by locals. There are few fish left now but more seals. Those images perhaps explain my fascination with the Seal Women, or the Selkie series who turn to observe the observer, take control over a tool (text-to-image AI) that disregards their cultural and economic rights. She has words in her mouth, words on her chest. Words that shape the outcomes of Generative AI systems. She has the power to choose the words. She has many skins. Does she own and control them, if not, who does? I later learned from Karina Kesserwan, that the Selkies have similarities to Sedna, in Inuktitut, ᓄᓐ Sanna, who rules the Inuit underworld. My mother's ashes are with Sedna in the underworld of the Saint-Lawrence, *Magtogoek*, *the path that walks*.

In a co-created documentary on AI and the Saint-Lawrence, we defined Smart Oceans this way :

*"Une mer intelligente est une mer **intelligible**, une mer sensible et sentie, une mer sage, qui assure une **pérennité des ressources naturelles et humaines**, de notre territoire, et ce, dans le **respect des savoirs traditionnels autochtones**."*

"An intelligent sea is an intelligible sea, a sensitive and sensed sea, a wise sea, which ensures the sustainability of the natural and human resources of our territory, while respecting traditional indigenous knowledge"

-Mélanie Brière, Kateri Lemmens, Valentine Goddard.

*Note: in French, oceans is feminine.

That documentary and a 1-year long socio-legal study on the feasibility of a data trusts are part of a holistic approach to proactively ensuring Responsible AI deployment. They are part of my inter-arts-based approach to the study of the different implications of AI.



Satellite image of Lac St-Pierre, courtesy of Pierre-André Bordeleau, RIVE, UQTR

2. Women. Peace. Democracy. Caring. Community.

As I continued reading the Words, notions pertaining to power, resilience and care surfaced as another dominant theme: Peace.

As a political artist, I am lucky to live in a safe country and can advocate without fear of violence, imprisonment, and murder. Violence against journalists is known but what is less known is the growing violence against artists. Their role in democracies is vital.

Can Generative AI be "Art"? If so, where does it situate itself between political "avant-garde" art, and public pleasing aesthetics? Diminishing the capacity of the arts and culture sector (cutting funding, limiting their role and independence, etc.), sets us up for a future in which art as a living institution of democratic societies is weakened. So, if we adopt Generated "art" in film production, in the creative industry, how will we protect this vital role? If the definition of art

changes and "generative art" is controlled by technocrats and for-profit megacorporations, aren't we putting our children before the gloomy choice of either techno-authoritarianism or political authoritarianism? Those questions are important for our cultural security.

That's why I wanted to create an exhibition that reminds us that neither fear nor blind enthusiasm will facilitate the responsible development and deployment of generative AI; an experience that weaves between art exhibition and interactive, collaborative documentary; and, finally, a space for dialogue that reminds us to steer clear of polarizing conversations about AI, because the social construction of our collective future depends on it.

The Dove short video is slow. We need to feel peace to be able to take the actionable steps that lead to it. So, breathe and enjoy a moment of Peace. Bring that Peace back to the next debate on AI for Humanity. Bring that Peace back behind the closed doors where money talks.

“Characterized as a daring art of the future, challenging entrenched norms and styles, the avant-garde claims to defy the aesthetic inclinations of the past and present but to anticipate the taste of future generations. In this context, the proper public for the avant-garde is the infinitely educable public: that is, the public of the future, as yet only dimly foreshadowed.

Imagining that the activity of education is the bridge between present and future, between prejudiced populist majorities and knowledgeable sophisticates on the margins, advocates of the avant-garde see art working to transform majorities, to encourage broad-mindedness, new knowledge, tolerance, and good judgment. Understood this way, the avant-garde neither reflects public taste (as friend) nor offends it (as enemy), but challenges it in order to change it (as friendly enemy).

And if the avant-garde seeks to transform the public into a more literate, more knowledgeable, more critically capable group, it begins to look something like the project of public education itself, a longstanding democratic project and one that has fierce proponents across the political spectrum. In this light, avant-garde rebellion emerges as far less hostile to traditional democratic ends than we might typically imagine.”

-Caroline Levine,
Provoking Democracy:
Why we need the Arts, Blackwell Manifestos, 2007.

AI Art risks becoming a [facilitator of authoritarianism](#) if the role of art in democracies isn't understood and protected. Nazi's discarded avant-garde representations of beauty. Stalin had a theatre professional executed. The Nigerian government executed Saro-Wiwa in 1995. Historical examples are plentiful and terrifyingly the [escalation of aggression towards artists](#) mirrors the lamentable erosion of democratic principles globally.

3. Sex. Consent. Fish and Ducks.

Finally, there were a number of words about our physical bodies, about creation. This was particularly well aligned with the uproar around consent and authorship that broke out last year (2023). A lot of my time was spent on the Art Impact AI Coalition, the Art X AI Conversation, on advocating for artists to be at the table of Generative AI regulation. This project was initially supposed to be focused on bias, but that issue had to make space for intellectual property violations, the lack of consent of artists and the non-remuneration in the use of their work in Generative AI systems. That is why the QR code and link to the Art Impact AI petition are part of this Exhibit. This is also why I recommend more work be done to understand the gendered implications of Generative AI on the arts and cultural sector. We also need strong principles such as these Best Curatorial Practices to ensure that AI Art (if we accept to call it this way) does not augment discrimination.

Using Generative AI platforms as is will make existing biases, sexist, racist and other discriminatory practices and socioeconomic inequalities worst. Despite hours and hours of hand painting, editing, prompting, to counter biased visual outputs, you'll notice images in which these problems remain: Digital Whitewashing (making a darker skinned person's skin paler), the Madonna-Whore dichotomy, The Invisible Age, Undressing Girls, etc. You'll find those in

some of the examples provided in the 12 art works as well as the “unfiltered” biased generated outputs in the pop ups. I explain this more under painting no.7.



The Duck Rider represents women being a minority in AI and tech and being told to follow the line. It's not in the Exhibit but it sure was part of the process. You might find her on one of my t-shirts one day. 😊

What the Words meant to AI was different than what they meant to me

From the words contributed, three key meanings were be extracted by ChatGPT. In its optimistic summary it overlooked many words about being fat, ugly, wrinkled and so on. As a human, I took those words, and others about war or pain, and injected love into them. I didn't erase the pain like ChatGPT summary does. I took as a steppingstone to doing better. ChatGPT summarized the words into these three groups:

1. Diversity and inclusivity: The words emphasize the importance of diversity in all aspects of life, including beauty, gender, nature, and community. They celebrate individuality, uniqueness, and the need for inclusivity, promoting the idea that differences should be acknowledged, respected, and embraced.
2. Empathy and kindness: Many words reflect qualities of empathy, kindness, and compassion. These words suggest a desire for a more empathetic and caring world, where people are considerate of one another's feelings, needs, and experiences. This theme highlights the importance of building connections and supporting one another.
3. Nature and sustainability: The presence of numerous words related to nature, environmental concepts, and the planet signifies a strong concern for the environment and a desire for sustainable practices. This theme underscores the need to care for the planet, address issues like pollution, and promote responsible stewardship of natural resources.

Huge thanks to **Mozilla** for the 2023 [Creative Media Award](#) allowing me to do this Exhibit!