



ART IMPACT

Observations and Strategic
Recommendations

By Valentine Goddard



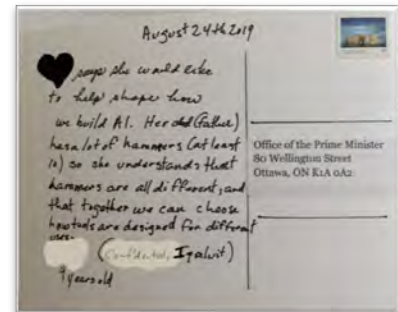


Contents

1. Introduction	2
1.1 Purpose	2
1.2 Methodology	3
1.2.1 During the workshops.....	4
1.2.2 After the workshops	5
1.2.3 Summarizing the workshops' results.....	7
1.3 Humility and Gratitude	7
1.4 Content of this report	8
2. Information about AI	9
2.1 Build from the foundations of local culture.....	10
2.2 How can we better understand AI and its social impact?	12
2.3 Adapting normative frameworks to AI.....	13
2.4 How we define Digital Literacy is critical.....	15
3. Access to AI	17
4. Impact on AI	20
4.1 Ethical frameworks are being written and shaping the foundations of AI Governance.....	21
4.2 Artists Impact AI's future	23
4.3 The Art Impact Games	24
4.4 What the history of regulating new technologies can tell us about our present.....	25
4.5 The intersection of AI and IP : consequences for the arts and society	26
4.6 Creatively moving forward	28
5. Conclusion and Recommendations	30
Note 1: Strategic recommendations	31
AI Impact Alliance's recommendations	32
Annotated recommendations.....	32
Note 2: Impact and Dissemination	36
Note 3: About the Author	36

1. Introduction

“I would like to help shape how we build AI. Her dad (father) has a lot of hammers (at least 10) and she understands that hammers are all different, and that together we can choose how tools are designed for different uses.”



These are the words a little girl shared with me, a participant in our inaugural workshop in Iqaluit, Nunavut. I was moved as I wrote down her hopes about her future.

Professor Yoshua Bengio, pioneer and award-winning Deep Learning researcher, agreed with her, when he affirmed those impacted by AI should be part of shaping AI :

“We have the responsibility not to leave these decisions in the hands of a few because AI will impact everyone. There are political decisions to be made and everyone must be engaged.”

As it will become clear in this report, the Art Impact AI participants agreed wholeheartedly with both.

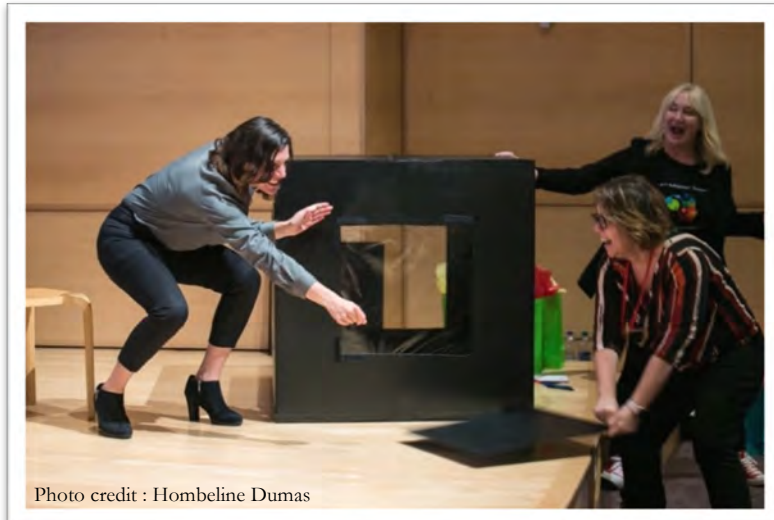
1.1 Purpose

The purpose of this report is to summarize as accurately and respectfully as possible what I heard during the Art Impact AI program, and include strategic recommendations for policy-makers and community leaders.

The history behind the Art Impact AI workshops goes back to the fall of 2017 when I was researching content for the AI on a Social Mission Conference. To create an impactful visualization for participants, I brought a Black Box on stage¹. The Black Box concept refers to the challenges around understanding its results. Making AI more transparent involves being able to explain how AI systems make decisions as well as its various ethical and social implications. The goal of our box was to help participants

¹ I designed our Black Box using an oversized cardboard box, and my husband and kids cut out the side panels, added cellophane in its windows, and Velcro to keep the panels in place.

visualize the different ways in which AI can be more transparent and illustrate how Transparency goes beyond being able to explain algorithmic results. For example, intellectual property in legal contracts can prevent service organizations from explaining to citizens why were declined certain services.



Throughout the 2 days, when a point was made that helped the audience make sense of how AI works, we'd pull off another side of the Black Box, slowly revealing a (somewhat) Transparent Box. This artful visualization became a launching point for Art Impact AI program.

The premise of the Art Impact AI was that artists are important drivers of citizen engagement that can inform the social dialogue on AI's potential as well as its ethical and social implications. Indeed, by reaching out to large and diverse publics, artists, cultural workers and creative agents contribute to informing AI Policies, and thereby facilitate a more inclusive and democratic governance of AI. While some artists are leveraging AI as a creative tool and others are trying to understand the implications of AI, too few are engaging directly with the opportunities and implications of this new technology. The lack of engagement is often due to lack of resources or information.

Jerrold McGrath, Akoulina Connell, and myself put our minds together and the Art Impact AI workshops were designed as an opportunity for national and local dialogue on AI in order to generate shared resources for those working in the arts; strategic recommendations for all levels of government; and a community of practice equipped to respond to the impacts of AI while developing their own projects centred on AI. It was at the 2nd edition of the AI on a Social Mission conference that my colleagues and I received the news that the Canada Council for the Arts was supporting the project.

1.2 Methodology

Between August 2019 and February 2020, Art Impact AI provided artists opportunities to comment on, reflect, and integrate AI in their work through exposure and understanding of the technology and its implications. It brought together a national

network of artists, cultural workers and creative agents interested in sharing resources that would lead critical discussions on :

1. How might AI impact artists and their communities?
2. How do artists want to impact AI's development and governance?

1.2.1 During the workshops

Our workshops were from 9a.m. to 5p.m. and, although the format varied between cities, this is how they were structured.

At the beginning of the workshops, my colleague Jerry always took the time to ask participants where we were, take the time to focus on the land we were on, as well as *why* we were there, expressing parts of ourselves, our motivation to take part in these discussions. So, at the end of the document, you'll find a short about my background and motivation.

Then, there was always between one to three hours of content being shared using slides with up-to-date information about:

- An overview of AI and what currently works, doesn't work and what is rapidly changing to ensure everyone was familiar with everyday AI terms and avoid hype-related fears (ex: Natural Language Processing being integrated rapidly in various tools versus General Intelligence still in the realms of potential futures, Computer Vision's successes and failures, pros and cons of recommender systems);
- Examples of current uses of AI in various sectors : arts, education, justice, health ;
- Explored uses of AI as a tool used to boost creativity, create new fields of practice, and improve cultural diversity.
- Legal, social, and ethical implications around who owns the data collected and used.

There was another substantial amount of time allocated to facilitated discussions, including games I will describe later, led by Jerry. The end of each workshop was again slightly different, sometimes we would all sit together, sometimes split into groups. Adapted to both scenarios, I facilitated the discussions about the implications about AI for their community, and took many notes of participants hopes, fears and solutions to achieve one, and avoid the other.

1.2.2 After the workshops

At the end of our workshops, I asked participants to choose only one of the three coloured postcards. Most participants believed all three were important, but I urged them to select the one that expressed their strongest feeling. The choices made therefore speak more about priorities in terms of needs, rather than a choice between them.



- Blue card means : the participant needs more information about AI, how it works and its various implications.
- Yellow card means : the participant needs more access to AI and the resources necessary to be able to use it.
- Red card means: the participant wants to impact the development and the governance of AI.

Signing and sending the postcard was voluntary and the response was very positive. Many postcards were signed, some with messages, addressed and sent to the Office of the Prime Minister of Canada.

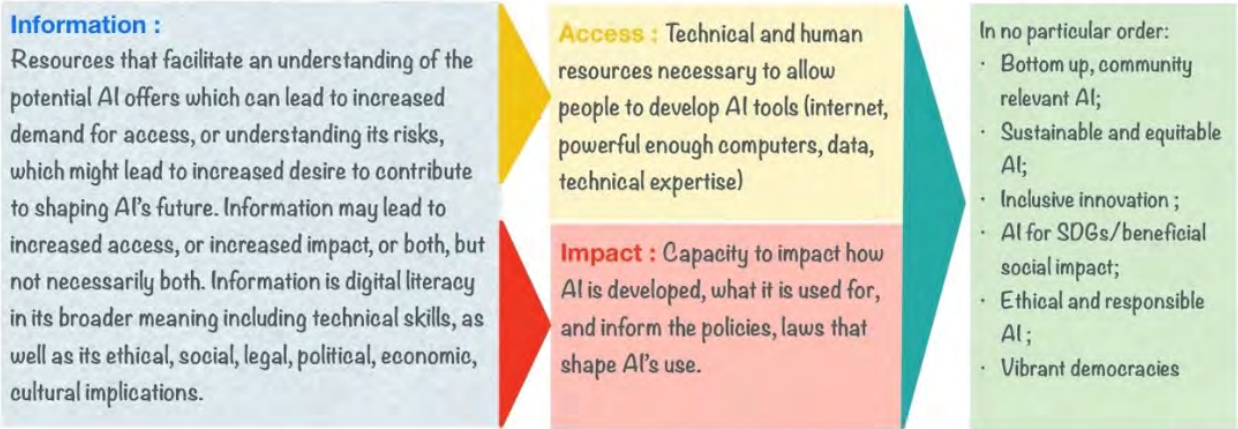
The recommendations made by the participants and presented in this report are divided into three sections reflecting the three key elements : a need for more **information**

about AI, improved access to AI, and enabling capacity to impact AI's development and governance.

In reality, there is a constant interaction between having information about AI, having access to it, and with that, the capacity to develop AI by and for the community. A similar interaction exists between information about AI and having an impact on AI's development and governance. Having information about AI is fundamental and forms the base of the deployment of AI in a democratic society. It will both awaken interest in how it could benefit art practices and community's socio-economic development. It is the first step to creating access to AI.

Information is also key to how citizens, artists, cultural workers, and community leaders can impact AI's development and governance. One might think that access automatically leads to impact, but that would inadvertently result in leaving a very high number of people out of the loop. Indeed, there are a high number of citizens who don't necessarily want to access AI as a technological tool, but want to be, and should be, in the loop when it comes to determining rules, frameworks, protocols, laws that will govern its development and deployment in society. Therefore, access and impact are two separates, yet often intertwined, paths towards a number of positive outcomes namely sustainable futures within the digital economy, ethical and responsible AI, inclusive innovation, thriving cultures and revitalized democracies.

A Roadmap to facilitate an ethical and responsible deployment of AI



1.2.3 Summarizing the workshops' results

I have compiled hundreds of pages of notes into a table split into the three action themes (information, access, or impact). What followed was an exercise in 1) summarizing while preserving the richness of diverse perspectives², 2) integrating various sources knowledge and expertise relevant to positioning the role of the arts in the development and governance of AI, 3) responding to issues raised during the workshops that were exacerbated by COVID-19.

It is unlikely to be a perfect and complete rendering of the hopes, concerns and strategic action recommendations of *all* participants. However, I believe it to be generally representative of the exchanges that took place. I am also attentive to an existent and growing body of work done by artists, activists, critical designers, researchers, and in a spirit of learning and sharing, am always looking for innovative ways of augmenting these voices through workshops, virtual spaces, interactive experiences.

1.3 Humility and Gratitude

Our very first workshop was held in Iqaluit, Nunavut. The encounters made there, before and after the workshop, resonated deeply and ingrained in me a profound humility. The kind of humility that brought me to the core of my motivations, and fuelled a perhaps slightly naïve, yet persistent, ambition to position the arts as key to shaping the future of AI.

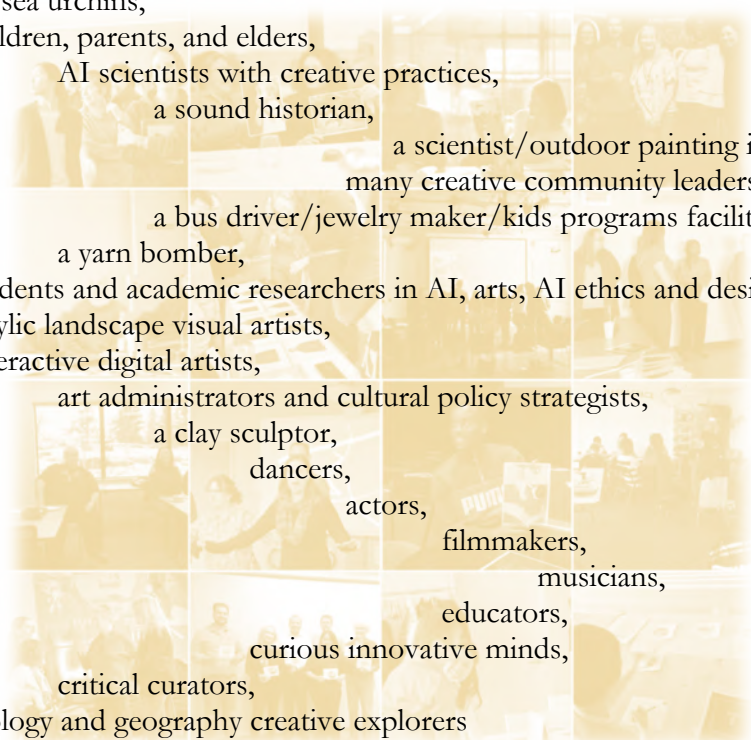
I then had the privilege of meeting over 250³ artists, cultural workers, creative minds and community leaders from 11 other Canadian cities from each province and territory⁴.

To all our participants, local partners, and the Canada Council for the Arts, I am filled with gratitude --for years to come—for being given the unforgettable opportunity of meeting:

² Interesting publication on the topic of richness of perspectives: Intersectional Dialogue : A Cosmopolitical Dialogue of Ethics, Rebecca Adami, Stockholm University, 2013

³ There were 207 attendees counted through Eventbrite, plus the attendees at the Banff Digital Arts Summit where approximately 36 attendees participated as well as various parallel workshops during that period. This document is based on the expressed, vocal and written, recommendations made by workshop participants however the overall reach on social media and via the news letters is easily over 50, 000 impressions not counting impressions from media coverage in Saskatoon(Global News) and Iqaluit (Nunatsiaq Times).

⁴ Covid-19 hit and therefore Toronto and Montreal workshops could not be conducted.



knitters of sea urchins,
children, parents, and elders,
AI scientists with creative practices,
a sound historian,
a scientist/outdoor painting instructor,
many creative community leaders/activists,
a bus driver/jewelry maker/kids programs facilitator,
a yarn bomber,
students and academic researchers in AI, arts, AI ethics and design studies,
oil and acrylic landscape visual artists,
interactive digital artists,
art administrators and cultural policy strategists,
a clay sculptor,
dancers,
actors,
filmmakers,
musicians,
educators,
curious innovative minds,
critical curators,
biology and geography creative explorers
and magic shakers.

I am writing with all of you in mind, and if you are reading this, I hope you find some of these pages somewhat useful and know that I look forward to continuing these conversations.

1.4 Content of this report

When asking the participants to choose between the three coloured postcards, participants were informing a roadmap towards inclusive innovation and ethical and responsible AI. The three principal mechanisms guide the organization of this report. The next three sections are therefore divided as such:

1. Information about AI (Section 2.0)
2. Access to AI (Section 3.0)
3. Impact on AI (Section 4.0)

The report ends with a series of recommendations.

2. Information about AI

INFORMATION



Artists and cultural workers
want more **information** about AI.

The need for more information about AI is unequivocal, and improving the amount and quality of information about AI and its various ethical, social, legal, economic, and political implications is paramount to transitioning towards an inclusive and sustainable digital economy. It is fundamental to improving access to AI because there are still a critical number of citizens who do not know how AI works and what it can do. It is only once that understanding is achieved that those same citizens might request access to the tools necessary to using it. It is only once that understanding is achieved that citizens can make informed choices about public policies, or give meaningful consent to data about them being collected and used. Information about AI and its implications is the first step towards democratized access and governance of AI.

Participants expressed the need for more information about AI from the government and asked for continued opportunities for social dialogue on its implications. The subtitles below underscore issues that resonated the most with a majority of participants.

2.1 Build from the foundations of local culture

The following averages are the present reality in AI, reflecting existent and long-standing social inequalities. They are the story of our past, not one we wish to automate nor exacerbate.

- 80% of AI professors are men⁵.
- A low average hovering between 5 and 20 % of workers in AI are women (variations per country and sector of work)⁶.
- Only 15% of science graduates come from working-class households⁷.
- Black/African American AI workers in tech industry represent less than 5% staff⁸.
- 95% of AI being developed in Canada is done within the private sector in a for-profit business model and under 5% are social entrepreneurs, NGOs or public services⁹.
- Most AI Ethical frameworks are done by or with the private sector¹⁰.

“Left to its current course, the digital economy is likely to widen both regional and gender divides.”¹¹

Current AI research, its applied uses, its governance, struggles to tell the story of a future built on the foundations of local cultures, its knowledge and wisdom. Going forward we need informed, inclusive, intersectional deliberation, and a commitment to an active engagement, a social contract.

⁵ <https://ainowinstitute.org/discriminatingsystems.pdf>

⁶ <https://syncedreview.com/2020/03/13/exploring-gender-imbalance-in-ai-numbers-trends-and-discussions/>

⁷ <https://www.nature.com/news/is-science-only-for-the-rich-1.20650#/elite>

⁸ <https://towardsdatascience.com/are-there-black-people-in-ai-fb6928166d73>

⁹ <https://jfgagne.ai/canadian-ai-ecosystem-2018-en/>

¹⁰ Global AI Ethics: A Review of the Social Impacts and Ethical Implications of Artificial Intelligence, Alex Hagerty, Igor Rubinov, 2019

¹¹ International Labour Organization. “Work for a brighter future.” ILO Global Commission on the Future of Work Report, January 2019. http://www.ilo.org/global/publications/books/WCMS_662410/lang--en/index.htm

Furthermore, during the workshop in Vancouver, some participants suggested the need for “Community Futures Critical Design Groups”, in order to take the needed time to first break away from colonial assumptions of what a beneficial future is, rebalance current power structures, and embed reconciliation in the process of choosing the place of AI in these more fundamental questions.

An unnamed participant at the Art Impact Workshop in Banff noted that “Cree artist Cheryl Hirondele’s work is a hopeful sign that alternative worldviews can make their way into the digital world”.

The consensus is clear among global experts requesting a “Deeper understanding of the social impacts of AI in diverse social settings”¹². Yet that engagement is not possible without an understanding of AI’s potential and risks which is the core of our next section.



Iqaluit, Nunavut, Canada

¹² Global AI Ethics: A Review of the Social Impacts and Ethical Implications of Artificial Intelligence, Alex Hagerty, Igor Rubinov, 2019

2.2 How can we better understand AI and its social impact?

It's important to start the process by understanding that **AI is a multidisciplinary discipline** and why that matters.

In 1955, John McCarthy proceeded on the basis that every aspect of learning, and other forms of intelligence, could be so precisely described that a machine could simulate it, and researchers in psychology, cognitive sciences, computer science worked jointly to do so. In 2020, the Oxford Dictionary defines it as “The theory and development of computer systems, able to perform tasks usually requiring human intelligence, such as: visual perception, speech recognition, decision-making, translation between languages.”

In order to achieve such an ambitious task, it is necessary to include Social Sciences, and the Arts. Recognizing how important that was, the Asimolar AI Principles, signed by 1500 scientists around the world, recommend that “Investments in AI should be accompanied by funding for research on ensuring its beneficial use, including thorny questions in computer science, economics, law, ethics, and social studies.”¹³

“Computational depth without historic or sociological depth is superficial learning.”¹⁴
RUHA BENJAMIN

Meanwhile, most Computer Science, Software engineering and AI programs do not offer fundamentals of sociology, history of technology, philosophy, law. Likewise, rare are the Social Sciences programs that include Python basics or algorithmic logic.

A systematic solution would be to adopt a definition of AI that recognizes its multidisciplinary nature. Doing so would have an impact on 1) funding models, 2) team composition, and 3) the incentives driving the future of AI. Protecting and creating new spaces of collaboration between artists and technologists will facilitate the development and governance of ethical and responsible AI.

Artists' critical thinking is important to help avoid dramatic errors. Joy Buolamwini's¹⁵ who went from exploring the use of Science Fiction to better understand AI to flagging the inaccuracy of facial recognition technology on darker skins, leading and contributing

¹³ <https://futureoflife.org/ai-principles/>

¹⁴ Venture Beat April 2020. <https://venturebeat.com/2020/04/29/ruha-benjamin-on-deep-learning-computational-depth-without-sociological-depth-is-superficial-learning/>

¹⁵ See Coded Bias, a brilliant documentary by filmmaker Shalini Kantayya, featuring other ground breaking research, social changer makers Timnit Gebru, Safiya Noble and many others.

to a movement that eventually caused a moratorium on the use of those technologies¹⁶. When I refer to the path between art and law, this is an inspiring example.

In the conclusion of an important overview of the ethical and social impact of AI¹⁷, the authors Alexa Hagerty and Igor Rubinov make a plea for more ethnographic research, and art-based ethnographic research is another important tool to help us understand AI¹⁸. On the other hand, Nobel Prize economist Elinor Ostrom underscores the importance of listening to local, on the ground wisdom and warns against the disastrous social and economic impacts of ignoring such valuable knowledge¹⁹.

In short, AI strategies must facilitate collaboration with artists and cultural workers, in academic settings as well as with locally rooted, trusted community-based organizations. Defining AI as a multidisciplinary discipline that includes the Arts and Humanities would guide policies towards improving AI's development and governance. Concretely speaking, that includes finding ways to value and fund their participation, to avoid "participation-washing" and tokenizing consultations²⁰.

2.3 Adapting normative frameworks to AI

The risk that AI could increase social inequalities is generally agreed upon²¹ and has been flagged by a number of brilliant researchers, filmmakers, and activists. AI can, and will automate the systemic discrimination that exists in the data reflective of current biases and aggravate the terrible consequences of those biases.

The critical question is now *HOW* can we ensure that AI is a positive tool for society. How can we make sure that those who are actively working for the benefit of society have the capacity to understand, access and impact AI?

Despite the limits of our legal system, it has built over time a body of jurisprudence that aims to protect human rights. In the past couple years, new case law is emerging to

¹⁶ IBM, Microsoft, Amazon put a ban on selling and a bill was introduced to ban its use by federal forces. <https://www.technologyreview.com/2020/06/26/1004500/a-new-us-bill-would-ban-the-police-use-of-facial-recognition/>

¹⁷ Global AI Ethics: A Review of the Social Impacts and Ethical Implications of Artificial Intelligence, Alex Hagerty, Igor Rubinov, 2019

¹⁸ Handbook of the Arts in Qualitative Research, J. Gary Knowles, Ardra L. Cole, Sage Publications, 2008

¹⁹ The Struggle to Govern the Commons, T. Dietz, E. Ostrom, P. Stern, 2003.

²⁰ The wording in the presentation I made at the [United Nations in 2018](#) needs refreshing, however the systemic issues raised still haven't been solved. They were discussed again recently at UNDESA (see previous link). See Mona Sloane's recent publication, coining an emerging trend in machine learning as "[participation washing](#)".

²¹ Such as but not limited to: Yoshua Bengio, Safiya U. Noble, Virginia Eubanks, Cathy O'Neil, Kate Crawford, Karim Benyekhlef, and many more referred to in this document.

protect recognized rights. In 2018, the Supreme Court of Canada²² emphasized the importance of keeping AI aligned with fundamental fairness principles. Although the decision does not refer specifically to AI-assisted decisions, it solidly lays the ground to enable such an interpretation in the future :

Mr. Ewert, who is Métis, challenges the CSC's reliance on certain psychological and actuarial risk assessment tools on the ground that the validity of the tools when applied to Indigenous offenders has not been established through empirical research. The Court concluded that, by relying on these tools despite long-standing concerns about their application to Indigenous offenders, the CSC had breached its obligation under s. 24(1) of the CCRA and had unjustifiably infringed Mr. Ewert's rights under s. 7 of the Canadian Charter of Rights and Freedoms .

More specifically, our highest court found that :

- Advanced statistical tools must be accurate.
- It is not permitted to breach the obligation to take all reasonable steps to ensure that such tools produce accurate information when applied to Indigenous persons (for the case at hand but could extend to others).
- Being aware of concerns regarding the possibility of such tools are exhibiting cultural bias yet taking no action and continue to use them is unacceptable.
- Our legal principles require that correctional policies, programs and practices must respect gender, ethnic, cultural and linguistic differences and must be responsive to the special needs of equity-seeking groups, and in particular Indigenous persons.
- The Court acknowledged the systemic discrimination faced by Indigenous persons in the Canadian correctional system, and the impugned tools in evaluating Indigenous inmates perpetuates discrimination and disparity in correctional outcomes between Indigenous and non-Indigenous offenders.

In short, any user, or developer, should be able to **demonstrate that the psychological and statistical tools for making decisions**, such as determining the risk of recidivism or deciding what kind of support he or she should receive, **must be effective and accurate**.

²² Ewert v. Canada [2018] 2 SCR 165: <https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/17133/index.do>

Furthermore, regulations in Canada and Quebec are changing and adapting to new AI technologies. Quebec most recent proposed changes will likely have a restrictive impact of the use of surveillance and recommendation technologies²³. Recently published guidelines and legal frameworks are now imposing the respect of Data Sovereignty and obligations to co-govern with named stakeholders the process of data collection and use²⁴.

As concepts of data sovereignty and co-governance integrate AI ethical and normative frameworks, there will be an increased need for a broader definition of digital literacy.

2.4 How we define Digital Literacy is critical

Digital literacy goes beyond learning how to code. It includes the understanding of its' ethical, social, economic, political, legal, cultural implications.

In fact, it is far more important to equip citizens with the capacity to critique how AI is used and governed than to teach them how to code. First, AI is quickly evolving into self-programmable options using simple commands, making it accessible to non-programmers, consequently coding is not a pivotal to digital transformation.

What hinders our capacity to achieve digital transformation in a way that benefits the largest number of people possible is addressing the rapidly growing Digital Gap. The root causes of the Digital Gap are by and large linked to those of poverty and socio-economic inequities. Furthermore, the Digital Gap itself hinders the capacity to give a meaningful consent to the use of data. Therefore, more Digital Literacy programs should encompass communities' capacity to grasp AI's potential, and avoid its risks.

Besides, equipping citizens with a better understanding of how their data is used in automated decision-making systems is rapidly becoming a legal obligation²⁵ for those developing and deploying AI technologies both abroad and in Canada. Indeed recently the Office of the Privacy Commissioner launched an investigation²⁶ on Tim Horton's application as users were not informed that geolocation data was being collected.

Perhaps that is why, from “*Never-heard-of-AI*” to “*I've-been-using-machine-learning-for-20-years*”, the participants were highly appreciative of the Art Impact Workshops and many

²³ At the Federal level, PIPEDA will be amended to include Privacy protection as Human Right. In QC, Privacy Protection Laws are aligning with GDPR (PL 64).

²⁴ See New Zealand's Algorithmic Charter; “Position Paper on the Indigenous Protocol and Artificial Intelligence” by Jason Edward Lewis, Angie Abdilla et al., [AI Impact Alliance's recommendations](#) for UNDESA Expert Group on Socially Just Transition : The role of Digital Technologies on social development and well-being of all.

²⁵ Idem. Also, look into the

²⁶ https://www.priv.gc.ca/en/opc-news/news-and-announcements/2020/nr-c_200629/

groups have formed since, many stayed in touch and more projects are brewing. There is a thirst for more information about AI. Many were community leaders in various roles, and their recommendations were adamant about ensuring that our government :



- Makes sure marginalized, underserved communities understand AI, including data governance, know how to use it, understand its potential, and its risks.
- Engages and disseminates information about these issues, harnessed by artists and cultural workers.
- Institutes educational programs about AI's ethical, social, legal, economic, political implications, at an early age and all through to continued education. Include compassion, empathy in educational programs. Invest into education.

3. Access to AI

ACCESS



Artists and cultural workers
want to **access** AI.

Access to a new technology has the potential to radically transform society and drive us towards economic recovery. Among various experts and stakeholders, democratizing access to AI is generally accepted as a fundamental building block in bridging the digital divide and decentralizing the benefits of a digital economy.

We list below recommendations raised by the Art Impact AI workshop participants as a check list.

Basic needs:

- Poverty is the root cause of the digital gap, addressing root causes of poverty will increase digital engagement, improve access.

- Some communities need a physical space to share and reinforce collaboration.
- Accessible, high-speed internet is fundamental.
- Urgent form of unstigmatized access to stable income, such as UBI, which improves innovation and mental health, facilitates entrepreneurship, made even more urgent with the impact of COVID.

Technical resources :

- Where are open source tools than artists can use? How could AI be used to crowdsource designs or product testing? Art Impact has started but more substantial resources would be needed.
- Access to computers powerful enough to process the incredibly high amount data AI requires.
- Expressed interest in using AI in storytelling, in interactive gaming, in immersive experiences, NLP for language revival, educational and well-being tools, improve discoverability.

Funding :

- The cost and resources necessary to develop and deploy AI technologies is prohibitive and impacts who has access to it and how organizations across sectors chose to use it.
- Need funding to establish long-term cross-sectoral partnerships, build a body of work, especially for artists in newer disciplines, and emerging artists of all ages.
- Prohibitive costs to getting into AI that risk of increasing the sectoral and regional divide.
- Being mindful of different semantics across sectors and disciplines and how that impacts on the understanding of projects by jurors and funders.
- Facilitate more cross-disciplinary and cross-sectoral funding models, more easily achieved by de-institutionalizing innovation
- Implement Social Return no Investment models versus the Return on Investment (ROI).
- Rethink tax policies.
- Evaluate new data and IP pooling strategies.

Data :

- Need data security labs.
- Support in establishing long-term collaborations, and how to create beneficial partnerships around data and AI.

- Create data commons, pools, trusts, training on what that means, how to write one²⁷.
- Learn, create about new business models adapted to the digital economy.
- Discoverability: recommender systems need sizable amounts to data to be effective, therefore artists and arts organizations must have the capacity to aggregate large enough amounts of data, and access to AI talent in order to be able to develop recommender systems that reflect their values, disciplines, preferences.

Some may wonder why *access to data* and *data literacy* are included in the section on **Access to AI**. The reason is quite simple : AI is data hungry and access to data pools (1), that are technically structured (2), and socially and legally aligned (3) with their purpose is a challenge for smaller organizations, and organizations with less financial capacity.

Having access to AI therefore should include data literacy and an understanding of different data governance alternatives in order to enable community leaders to understand/control of how data about them is collected, used and analyzed, as well as how AI is used. Data sovereignty facilitates the development of regionally and culturally fit AI frameworks to guide its use and impact.

An inspiring and powerful example of how data collaboratives are being used for social change is [The British Columbia First Nations' Data Governance Initiative](#)²⁸ whose goal is to “*equip First Nations with the technological and human resource capacity to govern and own their communities' data.*” There are other similar initiatives starting to emerge, building regional cross-sectoral collaborations around shared economic resources in order to improve access to the potential AI can offer, putting the needs, talents and values of their communities first. Co-governance of data is also a growingly accepted criteria in Algorithmic Charters²⁹.

²⁷ For more information on data trusts: <https://www.nesta.org.uk/blog/new-ecosystem-trust/>

²⁸ <https://www.bcfndgi.com>

²⁹ <https://data.govt.nz/use-data/data-ethics/government-algorithm-transparency-and-accountability/algorithm-charter>

4. Impact on AI

IMPACT



Artists and cultural workers
want to **impact** AI.

A majority of the Art Impact AI participants chose the Red Postcards, expressing the will to be included in AI's development and governance. This section is therefore longer than the two previous ones. The issue of impact is taken from two angles, the arts as being impacted, and the arts as an agent of change:

1. What are the risks for the arts, cultural and creative sector as well as the communities to which they contribute? The proposed solutions to these risks were either raised by the participants themselves, or myself, or both.

2. How can the arts, cultural and creative sector impact AI? That section focuses on areas of research, practice or policy innovation, that can impact the future of digital societies.

Having an impact on, or being on the passive end of “being impacted” by AI, is a delineation that changes with the level of understanding artists, citizens, leaders have about it. It will change with an increased engagement on these issues. It would also change if access to AI was improved. In short, the impact AI will have and the future we create, with or without it, changes every day caused by a number of factors³⁰, namely **information** and **access**, a point we are trying to make clear in this report.

4.1 Ethical frameworks are being written and shaping the foundations of AI Governance.

An ethical framework is a written guideline informing choices about AI’s development and governance. It is important to help us figure out best practices as we deploy AI technologies in geographical locations with different values, protocols, laws, and highly varying concepts of what is ethical or not. These frameworks will shape AI and its impact on society, including artists and their communities. Therefore, the discussion on what participants found to be acceptable or reprehensible was vibrant. Are the current standards representative of a global consensus if such a consensus is indeed possible or even desirable? There was an overall agreement that the current standards are insufficient and represent a limited number of stakeholders.

The portrait done by Anna Jobin, Marcello Ienca, and Effy Vayena, *The Global landscape of AI Ethics guidelines*³¹, found 84 written documents that included ethical principles, guidelines, frameworks and analyzed who contributed/drafted them and what were the dominant values emerging from them. I prefer this research over others, as it highlights the inequities in whose voices are heard, and the impact that has on what values are put forward in the adoption of global standards governing AI, risking unintended exclusionary policies.

- 22.6% published by the private sector alone vs. independent civil society organizations such as a federation of workers/unions representing 1.2%
- 32.1% produced by “multi-stakeholder”, actually referring to public-private partnerships vs. *Public-Private-People partnerships (including civil society organizations) representing less than 2%*.

³⁰ Another factor that I chose not to discuss in this report as it was less discussed during our workshops, is the rapidity at which AI is becoming more accessible and the necessity to code in order to use AI is decreasing.

³¹ June 2019, <https://arxiv.org/abs/1906.11668>

Jobin et al. analyzed the 84 written ethical guidelines and extracted predominant values and listed them in the order they observed. The order of priority given to each is representative of the values of those participating in the drafting of such guidelines.

These documents are currently informing lawyers, judges, politicians, entrepreneurs, business leaders, in determining what is an acceptable use of AI. They are influencing and informing policy and regulatory innovation. Yet, the overview illustrates that civil society organizations/NGOs, including, arts and cultural organizations, are dramatically underrepresented contributors to the drafting of AI's ethical guidelines. Their values and priorities are *not* the ones shaping AI's impact on society.

When the priorities of the private sector are overrepresented in the Governance of AI, the resulting ethical frameworks are weak. They will lack the scope and depth required to build strong foundations. They lack the appearance of impartiality required for citizens to trust the governance of AI. Such frameworks require a much broader, informed and inclusive social dialogue about AI's implications.

For example, in other AI Impact Alliance workshops, I asked executives from large corporations to choose which value was for them, as citizens, central to guiding the development and use of AI, one value that should be prioritized in AI governance frameworks. Many chose Justice, Fairness or Sustainability. I then asked them to put their business leader hats back on. One participant explained that when it came to implementing AI within his organization, he felt compelled to choose a different value. More specifically, he chose Transparency, focusing on the interpretability and explainability of algorithmic results, which were simpler in comparison to a value such as Fairness, which implied more personal, cultural, and/or generational nuances.

It is also important to note that Transparency's definition in this context, is narrowed down to being able to explain an algorithmic decision to unhappy customers/investors/insurers/courts of law. It is less, or not at all, about allowing citizens to make informed decisions regarding the use of their data in algorithms. A more comprehensive definition of Transparency should include making more information about AI accessible.

Social dialogue is a pertinent solution and the arts is conducive to facilitating a necessary ongoing mechanism that includes knowledge sharing and community-based critical forums. Its goal and form go beyond consultations that measure citizens' level of understanding of AI at the time of the consultation. Social dialogue builds the capacity citizens need to be able to transition into a new economy where AI is part of our everyday life. It is a living mechanism that can grow at the same speed as AI technologies.

Similarly to our judicial system, which sets out laws (guidelines), the democratic governance of AI and data, the governance of AI should be an ongoing process that facilitates dialogue around regulatory and policy innovation between the civil, public, and private sector, with much more emphasis than there presently is, on supporting the capacity of the civil sector to partake in that exchange.

This subsection could have been in the **information** section but I believe the arts can **impact** what comes next. Indeed, the arts have an important role to play in augmenting Transparency, a value that is integrated in many AI ethical frameworks. Society needs change facilitators capable of revitalizing citizenry, and it is a timely opportunity to seize for the arts, cultural and creative sector.

4.2 Artists Impact AI's future

Many of the workshop participants asked how can we ensure AI gives back to the land and the people, brings people together & strengthens social fabric. Our discussions and my research confirm a deeply anchored response which is “The arts have a core role in guiding us towards that solution”.

Artists, cultural workers, creative agents, community leaders can :

- Contribute to the Transparency of AI, an essential component of ethical AI, by facilitating an ongoing informed, inclusive dialogue about AI and its implications for all communities. This can be done using AI in fun, creative, engaging ways ;
- Help citizens understand algorithmic logic and the implications of AI technologies, both potential and risks, and contribute to an informed, embodied envisioning of our futures and shape the narrative around AI ;
- Be a driving force towards informed and legitimate AI policies, and revitalize democratic processes in the adoption of ethical and regulatory guidelines about AI's development and governance by engaging a larger number of diverse citizens³².
- Assist the progress of a societal growth that is necessary to keep up with the rapid implementation of AI in everyday applications. For example, the most important skills of the future are creativity, critical thinking, problem solving and collaboration. These important skills are under threat if we automate blindly without investing into education and a thriving cultural sector.

³² There are numerous papers on this but one that I found particularly interesting is : Theatre as a public engagement tool for health-policy development, J. Nisker, D. Martin, R. Bluhm, A. Daar, 2006.

- Drive the use of AI towards improvements in human rights by engaging diverse publics on issues such as gender bias, racial profiling, surveillance. See below the Art Impact AI Game as an example.
- Improve AI by collaborating with researchers on projects related to understanding creativity and decision-making.

4.3 The Art Impact Games

The Art Impact Games are a good example: a group of artists³³ was commissioned to design games that would allow participants to have an embodied experience of the use of facial recognition and recommender systems. The result was absolutely brilliant. There was frustration, sometimes outrage, and certainly a healthy level of discomfort. The ensuing discussions extended from the implications of the choice of data we feed algorithms, to how human questions shape algorithmic answers, the impact of business models on human choices. Some teams tried to prevent bias and outsmart the algorithmic logic resulting sometimes in loud laughter, sometimes in a silence that was rich in thoughts. The outcome of the conversations held during the workshops, triggered by balanced content and the Art Impact AI Games, contributed to these strategic recommendations.



One of the co-designers of this game shared with me a spontaneous feedback after a post I made on Instagram regarding upcoming strategic recommendations presented to the United Nations.

“I’m really looking forward to your updates. I am very curious to see how your work connects to policy change (potentially) and what that process looks like (has been looking like). I felt empowered to indirectly be part of provoking those changes.”

Heran Genee is an emerging Art Producer, with a BA in International Development Studies.

³³ With the support of the Canada Art Council, the Art Impact AI Games were commissioned by Akoulina Connell, Valentine Goddard, Jerrold McGrath for our workshops. Jerrold worked closely with the following artists on the design of the games : Raad Seraj, Alex Lord, Heran Genee, Bryan Dupuy, Tyreek Phillips.

4.4 What the history of regulating new technologies can tell us about our present.

The history of new technology regulation is helpful in learning from strategies adopted in the past, their consequences. It can inform policies and regulatory innovation. Whether it is through the adoption of new standards, policies, funding mechanisms, or private contractual arrangements, the normative tools we put in place will shape who has access to a new technology, and who can benefit from it.

Socializing the benefits of AI means that tax dollars that were invested for many years, and still are, into publicly funded research on AI should be a collective good that benefits all citizens. Unfortunately, there are serious concerns, both within the research community and within all levels of government, that the benefits of AI are being privatized³⁴. Consequently, looking at past strategies that allowed the private sector to benefit from ground breaking new technologies are important to understand.

In *Electric Sounds, Technological Change and the Rise of Corporate Mass Media*, Steve J. Wurtzler explains how corporations built strategic alliances in order to control both the narrative of the new technology and the ownership through the creation of patent pools, defined as agreements between patent owners to share the benefits of patents³⁵. This caused innovation of acoustics to exacerbate an increasing concentration of ownership and power within the U.S. mass media.

During that same period, the narrative around acoustics innovation touted a “*tool of public necessity*”. Meanwhile, independent, educational uses of acoustic sound innovation were sidestepped by the above-mentioned strategies.³⁶

Collaboration among various stakeholders was fundamental in shaping who benefited the most from new acoustic media and their strategies are useful in determining further use of AI and its impact on society. I would like to draw the readers’ attention to two key elements over which the arts, cultural and creative sector could have more control : 1) Narratives about AI, and 2) Intellectual property strategies.

Indeed, the arts is an important driver of the narratives around new technologies and my hope is that we can make it less about fear, and more about inclusion and

³⁴ IP statistics: In AI, 26 of the 30 patent applicants are corporate conglomerates, only 4 of those 30 are universities or public research organizations, those 4 are based in China. From WIPO Technology Trends 2019, Artificial Intelligence.

³⁵ https://www.wipo.int/export/sites/www/ip-competition/en/studies/patent_pools_report.pdf

³⁶ *Electric Sounds, Technological Change and the Rise of Corporate Mass Media*, the author, Steve J. Wurtzler, This is a terrible 2 line summary of Wurtzler’s brilliant, in depth analysis. See for example page 59 on “the creation of specific classes caused a gap in access, hindering the economic viability of non-profit educational, religious, (*and community based) broadcasters.”

sustainability. Given the current gender and diversity crisis in AI, our team chose to design Art Impact’s communications plan and workshop content, to maximize our capacity to reach out to currently underrepresented voices in AI. In the U.S., known programs intended to build narratives around AI target higher income, professional men readership through sci-fi writing grants³⁷. In short, there’s room to grow...

However, it is on the second point that I would like to spend a little more time.

4.5 The intersection of AI and IP : consequences for the arts and society

It may sound surreal that there are AI’s applying for patent ownerships, and that an AI in the US is suing³⁸ a governmental office for imposing that a human be named as the inventor, but these are real questions prompting international conversations around the future of IP laws and AI. Indeed, concerns are growing around the impact of regulatory innovations in the field of intellectual property on artists and cultural workers’ livelihoods in the age of Digital Economy.

For those reasons, the World Intellectual Property Organization (WIPO), facilitated conversations³⁹ with global leaders in both AI, IP, industry and government on IP and AI to evaluate how IP global agreements could/should be adapted to AI. Issues such as “Can AI be recognized as an inventor? Can it be granted authorship? Can it own patents?” were raised. The debate centred around the purpose of IP laws which is to support creativity and innovation in the era of algorithmic creativity.

Many experts referred to the effect that IP strategies have implications on the ethical and socio-economic impacts of AI. Indeed, some interventions underscored the alarming growth of an IP Gap and questioned its geopolitical, economic, and social implications.

“In many cases AI processes depend upon the “input” of creative works or recordings and derive their purpose and value from the creativity and investment of the authors, artists and producers that created those works or recordings. The most obvious example of this is when existing compositions or sound recordings are used by machine learning applications to generate output in the style of the music that is used as input.

³⁷ Names under Chatham House rules.

³⁸ <https://www.lexology.com/library/detail.aspx?g=f435c2c2-a839-489f-812e-7d2b347a293b>

³⁹ During the closing remarks, organizers said all remarks should be published and I believe everything can be found at this link. https://www.wipo.int/meetings/en/details.jsp?meeting_id=55309

*Ensuring strong incentives for the creation and production of new works is therefore essential for the sustainable development of AI. When the quality of the output of AI processes depends on the quality of the input material, it would be counterproductive to undermine copyright protection and thereby reduce incentives for the creation of an investment in new works*⁴⁰.

WIPO's president, Mr. Gurry concluded on the necessity to support the arts, cultural and creative sector in order to ensure AI's sustainability, and support nations' capacities to innovate.

In light of those discussions and the concerns raised by the Art Impact AI participants, an effective IP strategy should take into considerations the ethical and social implications of AI. As the digital transformation and the shift towards a digital economy accelerates, the importance of adopting a national IP strategy that values the arts, cultural and creative sector's vital contributions is critical.

An IP Strategy that fails to support artists, creatives, cultural workers, a narrow IP strategy that omits to consider economic implications for the arts sector, will be the cause of imploded digital economies. Both the history of new technology regulation, and the most recent global conversations around IP strategies underscore their importance in a thriving innovative economy as well as ensuring a beneficial deployment of AI in society.

*For those interested in knowing more, the Canadian economic recovery plan relies heavily on technological innovation and the federal government recently launched an IP support program⁴¹. Also, Ontario recently published recommendations on "IP in the Innovation" which intends to "*help the Ontario government capitalize on the investments it makes in research and entrepreneurial ecosystems and ultimately advance the prosperity of Ontario in a global economy driven by innovation.*" The consultation in 2019 was led by stakeholders in technology, entrepreneurship, IP commercialization, policy⁴² (to my knowledge none were representing the arts, cultural and creative sector).

⁴⁰ IFPI Proposed Written Intervention at the Second Session of the WIPO Conversation on IP and AI Intelligence. A quote from the intervention made by, and gracefully provided by, Patrick Chamley, Director of Global Legal Policy and Licensing.

⁴¹ <https://www.ic.gc.ca/eic/site/108.nsf/eng/home>

⁴² <https://www.ontario.ca/document/report-intellectual-property-in-ontarios-innovation-ecosystem>

4.6 Creatively moving forward

In our search for strategies moving forward, many participants raised issues around rethinking of how we value the work of artists in society. As automation and digitalization increases, the arts, cultural and creative sector should be key in the development of the Skills of the Future. Indeed, creativity, critical thinking, problem solving and collaboration are fundamental to our capacity to continue to thrive and innovate.⁴³ So, the question here is how do we enable the enablers? Strategies are based on more project-based learning.

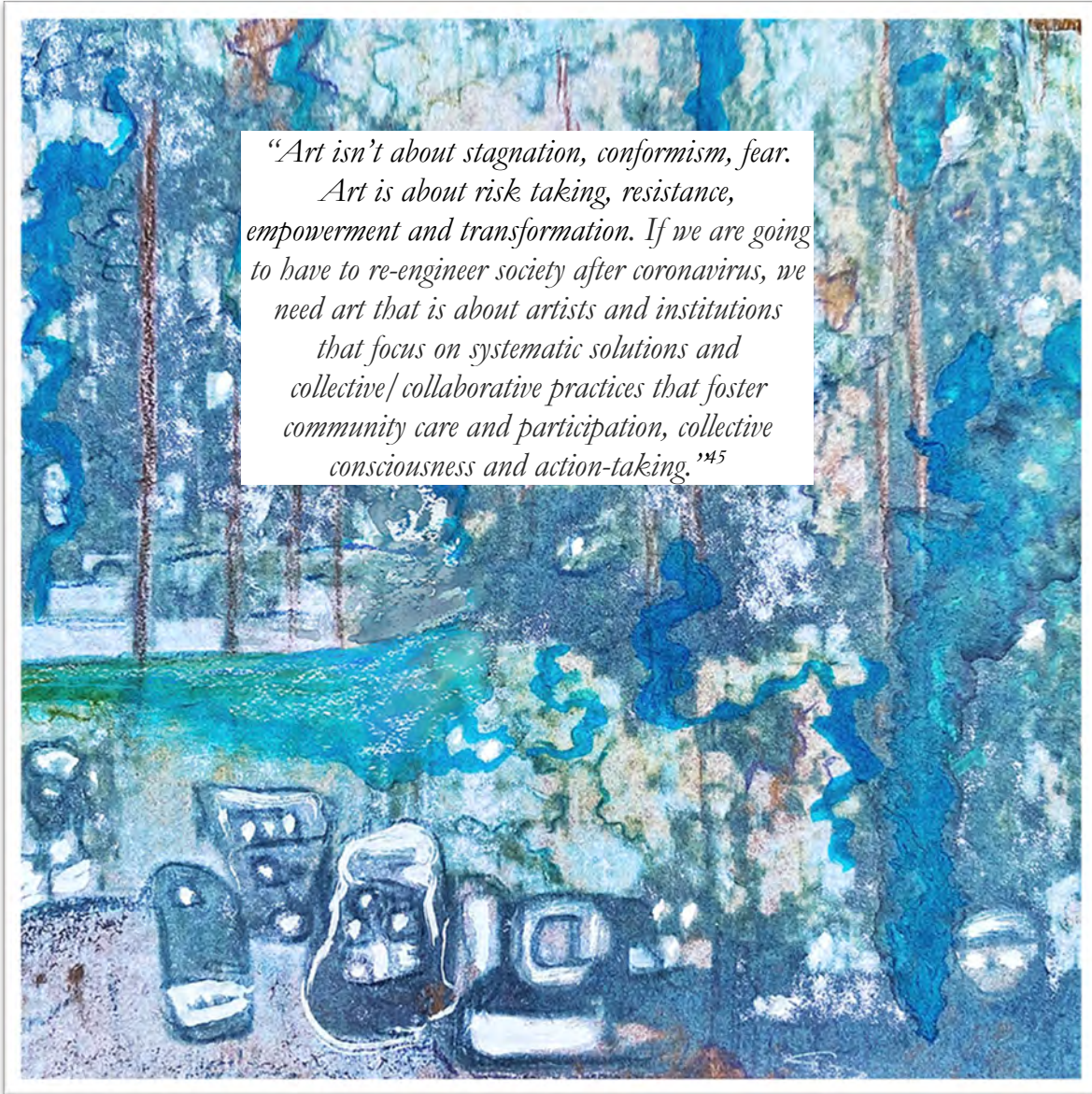
“By learning you will teach; by teaching you will learn.”
OLD LATIN PROVERB

Indeed, research shows that new technology is best understood through real-time learning, hands-on, embodied, experiential learning through projects. Additionally, *how* we learn to integrate new technology is vital to avoid unintended consequences and increase the quality/speed of learning. Experts⁴⁴ explain the criteria for success in creating learning teams 1) able to learn faster and 2) able to implement new technologies safely in open heart surgeries. They analyzed how teams were composed, how they chose a learning leader, the impact of status and hierarchy on communication within teams, incentives around the meaning of success, and so on. The impact of mistakes in cardiac surgery can have life or death consequences. So can AI.

AI can also save lives, or have the unintended consequence to shorten the lives of entire communities. Therefore I believe we need to urgently increase the quantity as well as improve the quality of the information we have about AI. Learning through the arts is an effective and socially responsible means to impact our collective learning capacity.

When applying these findings to the role of the arts in AI's futures, I believe that moving forward, we need to create more spaces that adopt a multidisciplinary definition of AI and AI Ethics, break silos and facilitate the understanding of semantics across disciplines and sectors. The arts is a space free of judgment, where making mistakes is part of a successful learning process. Society will benefit from having more spaces where Art and AI can learn from each other to envision and reinvent better futures for all.

⁴³ As identified by the Organization for Economic Co-Operation and Development (OECD).



⁴⁵ What should we expect from art in the next few years/decades? What is Art Anyway? Carmen Salas, Medium, May 2020 : <https://medium.com/@CarmenSP/what-should-we-expect-from-art-in-the-next-few-years-decades-and-what-is-art-anyway-be9f75c3d1ae>

5. Conclusion and Recommendations

What is new, is AI's rapid deployment in society, the potential it represents economically, creatively and socially. What is new is the historical economic crisis COVID has caused. What could be new is how we grasp this opportunity for real change.

The impact COVID has had on the arts, cultural and creative sector was devastating. Artists are resilient and many strong, creative, innovative minds are exploring how to reinvent their art. Many, however, are struggling, and artists and cultural workers were already among the lowest paid workers in Canada with women paid less than men, and male Indigenous artists being the lowest paid of all.

The Brookings Institute's report on Covid-19's impact on the creative economy, concluded that this sector, along with technology and business, drive regional economies, and any damage to it will undercut our culture, well-being and quality of life⁴⁶. As mentioned above, the World Intellectual Property Organization, and the United Nations Department of Economic and Social Affairs have recently affirmed the importance of the arts and cultural sector in a rapidly transforming economy. Professor Bengio confirmed that:

“The Future of AI lies in the understanding of creativity and the role of attention in decision-making⁴⁷.”

Not only does AI present exciting opportunities in digital arts, and revolutionize interactive and immersive experiences, but AI needs the arts. The valued participation of artists, cultural workers, and creative agents can push AI beyond its current limits and facilitate a sustainable, human-planet-centric adoption of AI.

I hope our elected officials received our postcards expressing the need for more information about AI, more access to it, and stands by initiatives that allow the arts to play its vital role in an ethical and responsible development and deployment of AI.

⁴⁶ Lost art: Measuring COVID-19's devastating impact on America's creative economy

Richard Florida and Michael Seman, August 11, 2020. Brookings' report is US based but interesting because of how it positions the importance of the sector in terms of its importance in the economic recovery. For Canadian perspective, see the excellent study done by I Lost My Gig Canada which was published by Hills Strategies. Hill Strategies Research Inc, June 1st 2020, Research and report by Arts Pond: https://hillstrategies.com/resource/i-lost-my-gig-canada/?fbclid=IwAR0SPfEVZkdGv4nuW1Z7Pcdgt3FY8ZeXAPVextHiO7TGr6XibXnA_HaLNcAreport

⁴⁷ Professor Yoshua Bengio, Scientific director at Mila, Quebec's AI Research Institute.

This is a historical opportunity, where the arts and AI ecosystems can join forces to achieve sustainable development goals such as eliminating hunger, improve access to health, education, address power imbalances and social inequalities. Arts' transformative pedagogical power combined with sustainability and equity oriented AI, with the support of aligned economic strategies/incentives, should lead us to new horizons. And I trust artists, creative, community and cultural workers, to be both our wind and our compass.

Note 1: Strategic recommendations

Why we chose not to use the term “policy” recommendations.

In our original communications, we used that term with the objective to amplify how artists envisioned their futures with, or without AI. However, in traditional policy development, the process starts with identifying a “need,” and AI in itself is not a need. The engagement of those who will be impacted by its deployment in society is a need. Therefore, I preferred the term strategic recommendations and I hope they can generate continued constructive dialogue around systemic issues, and be taken into consideration when reframing policies in the digital economy.

Whose recommendations are these exactly?

AI is a new normal and there are urgent questions regarding how data is collected and used, how algorithms are trained, how AI technologies are deployed in society, who has access. Zeynep Tufecki put it this way : *“The question is not what will AI do us, but what will power do to us with AI?”*. During the Art Impact AI workshops, we asked : What if AI was controlled by artists and cultural workers, what would we do with AI to society?

It is important to note that following the original exchanges with participants, the onset of the coronavirus pandemic has accelerated digital transformation. This has thrust to the forefront existing questions and concerns about the ethics and social impact of AI, and requires pressing social and political choices to be made.

The vital role of the arts is pivotal in the development and deployment of AI, and the recommendations reflect that importance. The strategies put forward in the concluding section include both those put forth by some of our participants, as well as strategies I believe could address hopes and fears

expressed during the workshops. These findings are the result of three years of working with civil society organizations, artists, AI and data scientists, social innovation, anthropology, history, business, legal and policy experts.

AI Impact Alliance's recommendations

Summary

- No. 1: Adopt a **definition of AI** which includes social sciences and the arts to increase its beneficial Social Impact.
- No. 2 : Adopt a living **definition of AI Ethics**.
- No. 3 : **Improve access to AI's development and governance for Civil Society and Community Based Organizations**.
- No. 4 : Support **Civic Engagement & Critical Design** through the arts.
- No. 5 : Improve access to choices of **data governance** models that reflect and respect Data Sovereignty and contribute to socio-economic development.
- No. 6: Create an **Intellectual Property Strategy** that supports a thriving cultural sector and the socialization of its benefits.
- No. 7 : **Monitor and Value Social Impact**.
- No. 8: Create an **Oversight Body and/or Algorithmic Charter**.

Annotated recommendations

No. 1: Adopt a definition of AI that improves Social Impact and Diversity

All policies should be based on the clear understanding that AI is a multidisciplinary discipline which includes social sciences and the arts.

This will help shape :

- 1) funding policies
- 2) team composition

This will increase critically needed diversity of perspectives, socially and culturally relevant choice of problems and solutions, and cross-disciplinary knowledge sharing in teams that are developing and deploying AI.

No. 2 : Adopt a definition of AI Ethics that grows as more people join the conversation

What is considered ethical or acceptable uses of AI will evolve as the understanding of AI's various implications improves. Therefore, it is important to adopt an applied and « Living » definition of AI Ethics as more people join this conversation.

- Laws are adapting to protect human rights and prevent a further privatization of the benefits of AI. However, AI Ethics Frameworks are tools that inform ongoing policy and regulatory innovations, and, as such, and *because entire sectors, communities and countries' voices have yet to be heard, none of these frameworks are currently complete enough to legitimize global policies.*
- Important to note this recently published paper on AI Ethics : “Position Paper on the Indigenous Protocol and Artificial Intelligence” by Jason Edward Lewis, Angie Abdilla et al. : “1) Locality, 2) Relationality and Reciprocity, 3) Responsibility, Relevance and Accountability, 4) Develop Governance Guidelines from Indigenous Protocols, 5) Recognize the Cultural Nature of all Computational Technology, 6) Apply Ethical Design to the Extended Stack, 7) Respect and Support Data Sovereignty.”

No. 3 : Make AI a tool for SDGs

Improving the access to AI for CSOs, particularly those are striving for SDGs, will increase chances of socializing AI's benefits, and accelerate the achievement of the UN's Sustainable Development Goals.

- Increases a critical need for more women and diversity in the development and governance of data and AI. Women represent an average of 7/10 women working in non-profit organizations (CSOs, CBOs) dedicated to social services to the community (SDGs).
- Increases chances we will address the underlying social problem before solving it with technology/ Avoid techno-solutionism (underpaid teachers, underfunded healthcare, etc).
- Increases trust & accelerates a responsible adoption of AI. (New Frontiers in Social Innovation, A.Nicholls, J.Simon, M.Gabriel)
- Facilitates collection of relevant and quality data, achieve more robust and socially beneficial, algorithmic results. (Prof. Milind Tambe)
- Addresses the deficit of Civil Sector's participation in the Governance of AI will improve democratic processes in regulatory innovation. (See The Global Landscape of AI Ethics Guidelines by Dr. A. Jobin, M. Ienca, A. Vayena)

No. 4 : Support Civic Engagement & Critical Design

- Devote significant resources to build an understanding of algorithmic logic, data issues, the beneficial potential AI represents, as well as ethical, social, legal, economic, political implications of AI, enabling citizens to make informed choices about their futures.
- Support new mechanisms for inclusive dialogue with citizens, tools for civic engagement, facilitate outreach, community-based critical design and knowledge sharing amongst stakeholders.
- By fostering informed social deliberations on AI and our digital futures, the arts are critical in the development of legitimate policies and shaping AI's evolution.
- Innovative tools using AI could increase the reach and effectiveness, but we must be mindful of ownership of data, IP strategies, explainability, and always use in combination with educational and outreach programs.

No. 5 : Focus on Data Governance and Sovereignty

- We must provide citizens more information on different Data Governance Models such as Data coops, data trusts in order to make choices that benefit socio-economic development of their communities. See detailed list in the [Access to AI](#) section.
- « Indigenous communities must control how their data is solicited, collected, analyzed and operationalized. They decide when to protect it and when to share it, where the cultural and intellectual property rights reside and to whom those rights adhere, and how these rights are governed. All AI systems should be designed to respect and support data sovereignty. » Recommendation No.7 from the Indigenous Protocol (reference above).

No. 6: Focus on Intellectual Property Strategies

- Sustainable AI needs a strong, diverse, thriving cultural sector. Create and put in place an IP Strategy that support artists, creatives, cultural workers, and avoid a narrow IP strategy that omits to consider economic implications for the arts sector, which would be the cause of imploded digital economies.
- IP strategies are fundamental to supporting creators and innovators, and ensuring a beneficial deployment of AI in society. There's a huge risk that we are repeating history as CSOs, SMEs, and most creative agents do not have IP capacity, and experts are now referring to an IP Gap.

No. 7 : Monitor and Value Social Impact

To be able to adapt policies, avoid unintended consequences, and achieve a Socially Beneficial Transition into a Knowledge Based Economy, we must set mission-oriented goals such as SDGS, monitor the results with Social Impact Assessments, and incentivize through Social Return on Investment criteria.

- **Social Return on Investment (SROI):** the value an organization (or a sector's) contributes to socio-economic development, as a guide for investors and public funders. Organizations should be supported in developing SROIs and incorporating them into their return on investment reports.
- For example, NeurIPS will no longer accept AI research papers submitted without a **Social Impact Assessments (SIA)**. *A workgroup should be put in place to define what that should be exactly and continuously reassessed by an oversight body.

No. 8: Create an Oversight Body and/or Algorithmic Charter

1. An independent public body overseeing AI's development and governance, whether it's an ombudsman, or other type of authority, would be highly relevant. Independent experts are needed to design educational campaigns, hear citizens' complaints, audit systems, analyze recurring problems, oversee and analyze systemic results and make enforceable recommendations. Ensure inclusion and diversity in composition criteria.
2. For example, in New Zealand's "Algorithmic Charter", agencies that sign the charter make a number of commitments.
 - They agree to publicly disclose in "plain English" when and how algorithms are used, ensure their algorithms do not perpetuate bias, and allow for a peer review to avoid "unintended consequences."
 - The Te Ao Māori Indigenous perspective is included in the development of algorithms, as well as their use, and asks that agencies provide a point of contact that members of the public can use to inquire about algorithms, as well as challenge any decision made by an algorithm.
 - Facilitate/put in place a form of co-governance if the results of algorithms impact a specific group such as workers (bringing worker protection into the new era).

Note 2: Impact and Dissemination

The results of the Art Impact workshops were originally supposed to be shared at the **AI on a Social Mission** annual conference in the form of panel discussions and an art exhibition including some immersive and interactive features. COVID-19 impacted our capacity to proceed with this international conference welcoming over 250 people. I integrated the essence of the intended programming into this report and postponed **AI on a Social Mission** to November 19th and 20th. We also hope to fund innovative platforms designed to continue these important conversations.

Indeed, with a team of devoted students at the Applied Perception Lab at Concordia University, led by Marta Kersten-Oertel, we're reinventing our workshops to adapt to longer-term impacts of COVID-19. One of the ongoing initiatives is an Interactive Virtual Gallery application using VR and AR. The Art Impact Virtual Gallery⁴⁸ will be a space where we can share what we heard from artists across Canada, allow users to make comments and ask questions, increasing both engagement with artists on AI, as well as amplifying the voices of artists on AI.

Essential parts of this report and its recommendations were shared at the United Nations, both at the UN Department of Economic and Social Affairs⁴⁹, and ITU's Artistic Intelligence Videocast, at the Alan Turing Institute, the Canadian delegation of Women in AI 2020 Summit, and Columbia University to name a few.

Note: There were over 230 participations in the workshops. Two of them had to be postponed *sine die*, and the estimated reach of this project is over 50,000 impressions not counting those we don't have access to such as those from media coverage in Saskatoon (Global News) and Iqaluit (Nunatsiaq Times). More quantitative reporting regarding impact will be provided in a separate report.

Note 3: About the Author

I grew up with my mother, an artist and active community member, in a rural northern seaside village. I now see growing up on welfare as a gift as I observed and felt how

⁴⁸ We're in an ongoing process of developing this space and are actively seeking new funding opportunities to realize it to its best potential.

⁴⁹ That report and more information is available here: <https://www.un.org/development/desa/dspd/2020-meetings/socially-just-transition-digital-technologies.html> and my recommendations: <https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/Final-Version-Recommendations-UNDESA-July-2020.pdf>

poverty quickly becomes a cycle. Breaking out of that cycle, I studied theatre and sociology and then, with social justice at heart, became a lawyer. In government, I worked to find systemic solutions to legal problems citizens faced regarding access to last resort income and assistance. I worked abroad for many years, blending the teaching of law and cross-cultural communication, and upon my return to Montreal, I continued deepening my use of the arts as a preferred tool to engage with citizens on social, economic and cultural rights issues.

In 2017, it became clear to me that AI was shaping a new reality with human rights implications and a broad societal impact. I saw both beneficial potential in its use, as well as systemic problems hindering the development of that potential (laws, business and funding models etc). That led me to found **AI Impact Alliance**, an independent non-profit organization, that 3 years later operates globally, with the mission to facilitate an ethical and responsible implementation of AI. I concurrently founded the annual **AI on a Social Mission** Conference, which included the important role of the arts in AI's future from its inaugural program.

I've since become a member of **United Nations** Expert Groups on the "*Role of Public Institutions in the Transformative Impact of New Technologies*", and "*Socially just transition towards sustainable development: The role of digital technologies on social development and well-being of all.*" I also sit on various advisory boards and have the incredible chance and privilege of being invited to many conferences on themes related to AI and society.

Central to what I do is recognizing and positioning the arts to foster renewed and diverse perspectives of our digital futures, support the development of informed and legitimate AI Policies, and shape AI's development and governance. **Art Impact AI** is an example of my multidisciplinary and applied approach to the ethics of AI.

I would like to extend my most sincere
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