

The Digital Territory

of First Nations Quebec-Labrador

POSITION ON DIGITAL AND
ARTIFICIAL INTELLIGENCE ETHICS



AFNQL
ASSEMBLY OF FIRST NATIONS
QUEBEC-LABRADOR



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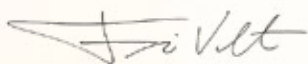
Foreword

Over the past 25 years, the initiatives undertaken by the First Nations in Quebec and Labrador to develop our own guidelines and frameworks for research ethics, information governance and the protection of First Nations knowledge have transformed our relations with academia, governments and institutions. We have redefined the research and data collection paradigm among nations and on our territories thanks to the various tools we have acquired. Now we must transpose these foundations to digital technology and **artificial intelligence**¹ (AI) while clearly defining our expectations, parameters and benchmarks in order to influence future developments in these fields.

Digital technology and AI are rapidly transforming modes of development and innovation. Trajectories that exclude First Nations or compromise our progress are not an option. Rather, we need to be central players and active stakeholders capable of carrying out our own initiatives and advocating for our distinct needs and priorities.

Considering the rapid growth of digital and AI technologies and the massive capital they represent, it is crucial that, as part of our move toward digital self-determination, our nations and organizations are equipped to position themselves as key, undeniable players in these areas.

The guidelines that follow draw direct inspiration from our successes in research ethics. The aim is to establish lasting relationships to guide digital development in harmony with the values of First Nations in Quebec and Labrador.



Francis Verreault-Paul

Chief of the Assembly of First Nations Quebec-Labrador

1 Words in red are defined in the glossary in Appendix 1, along with other common terms in the fields of digital technology and AI.

Introduction

The digital world continues to grow rapidly, and we are seeing **machine learning** tools and systems being deployed on a massive scale, backed by significant investment. Yet one major blind spot persists: the total lack of ethical guidelines for digital technology and AI specific to First Nations in Quebec and Labrador. This paper presents the position of First Nations in Quebec and Labrador with respect to their direct and indirect contact with these technologies.

Historically, First Nations have been marginalized by colonial structures, resulting in their voices and perspectives being under-represented in the processes of **data** collection and use. This has, in turn, led to First Nations being dispossessed of their data. The data used in AI **algorithms** and systems is not properly evaluated or regulated in terms of quality and accuracy, thus reproducing and perpetuating inequalities inherited from colonization. Moreover, these technologies, which are often designed and implemented in the communities without regard for the local context and First Nations knowledge, can have a significant impact on First Nations, on both the individual and collective level. The inclusion of First Nations is therefore an essential condition for the development of ethical and responsible technologies.

First Nations stand to benefit from digital technologies such as AI, which have many useful applications. However, it is crucial to be aware of the risks we face in this domain. It is possible for these technologies to serve the interests of First Nations, but only if those who fund, design, use and regulate them comply with ethical principles and human rights obligations. Our main concerns relate to the potential of digital technologies and AI systems to reproduce existing biases, thereby exacerbating forms of intersectional² discrimination against First Nations.

This position paper crystallizes the shared perspectives of a multidisciplinary working group coordinated by the First Nations of Quebec and Labrador Health and Social Services Commission (FNQLHSSC). The working group includes representatives from various regional commissions and organizations of the Assembly of First Nations Quebec-Labrador (AFNQL), as well as other experts in ethics and social justice. The purpose of the guidelines is to formulate broad principles and directions that First Nations and First Nations organizations can refer to. As with the **First Nations in Quebec and Labrador's Research Protocol**, these guidelines are not being imposed; rather, they are being proposed as tools to be freely used or adapted according to the needs of First Nations and First Nations organizations.

² Intersectionality examines how various forms of discrimination – based on gender, social class, ethnicity, and other aspects of identity – intersect and reinforce one another. Developed by African American legal scholar Kimberle Crenshaw in the late 1980s, this concept highlights that individuals can be simultaneously affected by multiple forms of discrimination, leading to distinct and often intensified experiences of injustice.



This paper can also serve as a reference for governments, universities, AI technology and system developers, and other partners and allies, who can use these guidelines in support of social justice, self-determination and sovereignty for First Nations.

Finally, this paper offers a reflection on next steps that might be taken by and for the First Nations. Also included in the paper are various resources and references relating to digital and AI ethics.

FIRST NATIONS IN QUEBEC AND LABRADOR’S RESEARCH PROTOCOL

This protocol is a collective instrument that supports the decolonization of research. It promotes collaborative research throughout the various phases of a research study: at study design, while the study is being carried out, and after it is completed. The protocol also promotes dialogue between First Nations knowledge and so-called scientific research. Three fundamental values must guide all research that involves First Nations or is carried out on their territories: respect, equity and reciprocity.

Source: Assembly of First Nations Quebec-Labrador (AFNQL). *First Nations in Quebec and Labrador’s Research Protocol*.
Wendake: AFNQL, 2014.
https://apnql.com/wp-content/uploads/2024/02/protocole_recherche_en_web.pdf.



Guidelines

The following guidelines have been developed to address ethical concerns, with an emphasis on First Nations self-determination, equity and respect. As the principles are interrelated, it is essential that each one be given due consideration.



1

FIRST NATIONS SELF-DETERMINATION

- ◆ Technological projects must contribute to First Nations capacity building and support sustainable development that respects the aspirations of First Nations.
- ◆ First Nations must have equitable access to the training and tools needed for them to adopt and use digital technologies and AI and make informed decisions in these areas.
- ◆ Digital and AI technologies must guarantee the application of First Nations' inherent right to self-determination, in accordance with international and Canadian frameworks.³

³ Article 3 (right to self-determination), Article 18 (right to participation in decision-making) and Article 31 (right to control of traditional knowledge) of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) explicitly affirm these rights in relation to the use of digital technologies and AI. Furthermore, the *United Nations Declaration on the Rights of Indigenous Peoples Act*, passed in 2021 to align Canadian laws with the UNDRIP, makes these international commitments legal obligations in Canada.



2

FIRST NATIONS DIGITAL SOVEREIGNTY

- ◆ First Nations have the right to manage, own, control and protect their data, digital resources and cultural information according to their values, protocols and priorities.
- ◆ First Nations digital sovereignty implies the active participation of First Nations in a **digital society** in which the right to their collective identity and self-governance are respected.
- ◆ The development and use of these technologies must be guided by First Nations, with their values, protocols and priorities being respected at all times. This direction includes the implementation of the **principles of OCAP®** (ownership, control, access and possession) as well as the **FAIR Principles** and **CARE Principles** to ensure that cultural and linguistic data and information are governed and managed respectfully.

THE PRINCIPLES OF OCAP®

The principles of OCAP® – **O**wnership, **C**ontrol, **A**ccess and **P**ossession of First Nations data – are tools to support First Nations governance when it comes to management of information and collective knowledge and the protection and preservation of our information assets. These principles are based on the premise that First Nations understand their own needs and are best positioned to manage their information. Established in 1998 by the National Steering Committee of the First Nations and Inuit Regional Longitudinal Health Survey, the principles serve as a political response to a persistent colonial influence in information research and management.

Source: First Nations Information Governance Centre (FNIGC). *The First Nations Principles of OCAP®*. Ottawa: FNIGC, 2023.
<https://fnigc.ca/ocap-training/>.



THE FAIR PRINCIPLES AND CARE PRINCIPLES

The application of the FAIR Principles (**f**indability, **a**ccessibility, **i**nteroperability and **r**euse of data) aims to maximize the value of scientific data by making it easier to share. Created in 2016 by a group of researchers affiliated with various institutions, including the GO FAIR Initiative, these principles are focused on technical aspects and neglect issues linked to power inequalities and historical context. This is why it is essential to also integrate CARE Principles into the management of Indigenous peoples' data. Created in 2019 by the Global Indigenous Data Alliance (GIDA), the CARE Principles are concerned with **c**ollective benefit, **a**uthority to control, **r**esponsibility and **e**thics, with the aim of ensuring that data use respects Indigenous worldviews and supports Indigenous self-determination. Complementing the FAIR Principles, the CARE Principles focus on individuals and objectives, encouraging a fairer and more respectful approach to open data policies and to innovation.

Sources:

Carroll, Stephanie Russo, Edit Herczog, Maui Hudson, Keith Russell and Shelley Stall. "Operationalizing the CARE and FAIR Principles for Indigenous data futures." *Scientific Data* **8**, 108 (2021).

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Global Indigenous Data Alliance (GIDA). *CARE Principles for Indigenous Data Governance*. (n.d.). <https://www.gida-global.org/care>.



3

SHARING THE BENEFITS OF DIGITAL TECHNOLOGIES AND AI, AND MANAGING RISK

- ◆ The benefits that arise from the use of digital technologies and AI that use First Nations data must accrue to First Nations first and foremost.
- ◆ First Nations must be informed and vigilant about the risks and drawbacks associated with the use of these technologies. It is essential that effective measures be put in place to mitigate such risks.
- ◆ The benefits and opportunities made possible by AI systems must be significant and tangible for First Nations, and must be important enough to justify the risks involved.



4

PROMOTION AND PROTECTION OF FIRST NATIONS CULTURES, LANGUAGES, TERRITORIES AND KNOWLEDGE

- ◆ Digital and AI technologies must contribute to the promotion and protection of the plurality of First Nations cultures, languages and knowledge. Across various applications, these technologies can play a role in passing down knowledge from one generation to the next and revitalizing languages.
- ◆ Developers and suppliers of AI systems that use First Nations data must be able to evaluate the quality of the results generated by these systems, ensuring that they are culturally accurate and free of bias. The development and use of these technologies must not perpetuate stereotypes or disseminate false information that could undermine the transmission and recognition of First Nations knowledge.
- ◆ The deployment and use of digital and AI technologies must not compromise the integrity of First Nations territories. Before digital infrastructure (e.g., data centres) is implemented on these territories, the First Nations must be adequately consulted and must provide consent. Furthermore, there must be efforts to minimize the ecological footprint, taking into account both short- and long-term environmental impacts on First Nations territories.
 - »» Digital and AI technologies must serve to strengthen First Nations' ability to protect their territories.



5

TRANSPARENCY OF DIGITAL AND AI TECHNOLOGIES

- ◆ Digital and AI technologies must be designed to be transparent, and it must be possible to explain these technologies in plain language to the people who use them and experience their impacts, regardless of their digital literacy and resources.
- ◆ Developers and suppliers of digital technologies and AI systems intended for or used by First Nations must clearly outline the associated risks and benefits.
- ◆ First Nations must consent to any collection and processing of their personal and collective information if a technology capable of identifying, locating or profiling them is used.
- ◆ When a decision is based exclusively on automated processing, First Nations users, whether individuals, groups or organizations, must be informed and given the opportunity to understand the logic and data on which the decision was based. This principle is intended to ensure that there is no discrimination or other vulnerability in the decision-making process.
 - » First Nations must be able to review an automated decision made with AI if they judge that the decision may be unfounded, unfair, biased or discriminatory.



6

DEMOCRATIC PARTICIPATION

- ◆ The process of designing digital and AI tools must be centred on the future users. From the earliest stages of the process, there must be an ongoing collaboration with and active participation by First Nations to ensure that the proposed services are culturally appropriate.
 - » Excluding First Nations from the design of AI systems can lead to these systems causing outcomes that marginalize or ignore them.
- ◆ The autonomy and capacities of First Nations must be strengthened when it comes to the use and management of the digital and AI tools that affect them. To this end, First Nations must be provided with the resources they need to take full advantage of the use of technologies to serve their priorities and values.
- ◆ First Nations must be given oversight and direct control over the deployment and use of digital and AI tools that use data from their population or territory. They must be able to intervene and evaluate the use of their data to counter the risk of misappropriation, discrimination or misuse.



7

INDIVIDUAL AND COLLECTIVE CONSENT

- ◆ Collective or community consent reflects the authority of First Nations governments over their knowledge, practices and data, while individual consent protects the rights and choices of individuals.
- ◆ Community and individual consent must be free and informed and must be formally obtained prior to any collection, analysis and use of data by digital technologies, whatever the level of identification of the data (de-identified, anonymized, aggregated, etc.).
- ◆ First Nations data obtained with consent may not be used for secondary purposes without newly obtaining the individual or collective consent of those concerned.

8

ACCOUNTABILITY

- ◆ Developers and suppliers of digital technologies and AI systems, whether public, private or governmental, must be accountable for their products and the impacts these products have on society. This accountability includes taking into account the potential impact on First Nations populations, territories and ecosystems as well as on the privacy, security, and collective and individual rights of First Nations. Developers and suppliers must take appropriate action in response to feedback from First Nations.
- ◆ Data must be monitored and evaluated throughout the lifecycle of an AI system to ensure its integrity and the accuracy of results. The premises informing AI systems must be validated with First Nations on an ongoing basis.
- ◆ The users of AI technologies are responsible for the decisions and actions taken on the basis of the recommendations from these systems. A technology can never be held responsible for any action or decision taken by a user.



Conclusion

These guidelines formulate principles to support First Nations in Quebec and Labrador in their contribution to the development of digital technology and AI in line with their values, principles and worldviews. Because digital and AI technologies are always evolving, the content of this document will be periodically reviewed and updated.

Solutions for the implementation of guidelines by First Nations in Quebec and Labrador

RAISING AWARENESS

Raising awareness among First Nations is the first step that must follow the development of guidelines. It is important that First Nations approach digital technologies and AI as informed users with a positive outlook, focused on leveraging these technologies to their full potential to serve their interests. In using these technologies, First Nations must also have full knowledge of their risks and must proceed with ongoing critical judgment. They must also stay informed on best practices for the use of these technologies. The next step will be to raise awareness among a wider public with the aim of ensuring that the guidelines are known and followed.

MONITORING

It is necessary to monitor, analyze and evaluate the impact of digital technologies and AI systems on First Nations in Quebec and Labrador so as to identify systemic biases, correct errors and ensure that AI systems are used ethically and responsibly.

This paper is meant to serve as a basis for defending the rights, interests and concerns of First Nations in Quebec and Labrador, while promoting the democratization of digital and AI technologies. These fields, often perceived as abstract and inaccessible due to how complex they are and how rapidly they are evolving, nevertheless have concrete and substantial repercussions on populations. At the same time, these fast-growing technologies have the potential to reduce inequalities and improve quality of life, provided they are designed from an inclusive perspective with due regard for the aspirations of the populations using them. The pursuit of social justice must be at the heart of the development of digital and AI technologies. It is essential to support the mobilization of First Nations and consolidate their power to act in these areas.



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Appendix 1

GLOSSARY

The fields of digital technology and AI involve many complex concepts and specific terms that need to be understood in order to grasp their challenges and applications. A glossary of key concepts is provided here to facilitate the understanding of this terminology and ensure its consistent use throughout this document.

ALGORITHM

A sequence of instructions or formal rules that govern the actions of an AI system, enabling such processes as computation, problem solving and result generation based on inputs.

ARTIFICIAL INTELLIGENCE (AI)

An interdisciplinary field, both theoretical and practical, that combines computer science and data sets to create systems capable of carrying out precise tasks and achieving defined objectives. By reproducing certain human cognitive abilities through the processing of information via algorithms and mathematical models, AI systems are able to make predictions, formulate recommendations, solve problems and make decisions autonomously.

BIG DATA

Extremely large data set derived from a variety of sources and existing in different formats. Due to its volume and complexity, this data cannot be collected, protected, stored or analyzed efficiently using traditional database or information management tools.

CHATBOT

A computer program that can simulate conversations with users.

CLOUD

A network of external servers connected via the internet used to store, manage and process data. The owners of this data can access it remotely and on demand.

DATA

Representation of raw facts, concepts, figures or instructions that have been collected, recorded and stored and can be used for transmission, decision-making, planning and measuring results. When data is used to train a machine learning algorithm, the term **training data** is used. **Open data**, on the other hand, is data made available to the public; it is free to access and use, with no restrictions on redistribution or reproduction.



DEEP LEARNING

A machine-learning method for processing information using algorithms organized into several layers of artificial neurons which mimic, in a simplified manner, the functioning of biological neurons. This approach enables AI systems to understand complex concepts from raw data such as images and texts. Common applications include image recognition, natural language comprehension, search engines and self-driving cars.

DIGITAL

In the field of technology, “digital” refers to systems based on the representation, processing and transmission of information in the form of binary data (composed of zeroes and ones). The term encompasses devices, software and networks used to create, store and distribute this data. By extension, this term is also used in connection with the social, economic and cultural transformations brought about by the widespread use of these technologies.

DIGITAL SOCIETY

A society in which social, economic, political, cultural and communication spheres are significantly shaped by the widespread use of digital technologies. The digital society is notably characterized by the use of digital tools in daily activities and the interconnection between individuals and systems.

GENERATIVE ARTIFICIAL INTELLIGENCE

A sub-field of artificial intelligence that makes use of models trained on large-scale data sets. Generative AI can create a variety of content such as text, code, images, music and video.

INTERNET OF THINGS (IoT)

A computing concept that enables objects equipped with sensors, software and other technologies to connect to the internet and exchange data with other devices and systems. The IoT makes use of network connectivity and computing capabilities to create networks of intelligent objects.

LARGE LANGUAGE MODEL (LLM)

A type of AI program based on deep learning that requires massive databases of text documents for training. LLMs are designed to understand, analyze and generate text by recognizing complex linguistic patterns and producing coherent responses.

MACHINE LEARNING

An AI field that involves machines performing tasks or solving problems without human intervention or programmed instructions, with the machines learning by repetition and improving through experience. The process of training machines requires vast data sets.



Appendix 2

DIRECTORY OF ONLINE GLOSSARIES

Center for Integrative Research in Computing and Learning Sciences (CIRCLS). “Glossary of Artificial Intelligence Terms for Educators.” 2024.

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Appendix 3

DIGITAL AND ARTIFICIAL INTELLIGENCE ETHICS REFERENCE DIRECTORY

First Nations of Quebec and Labrador Health and Social Services Commission. Working Group on the Development of Digital and Artificial Intelligence Ethics Guidelines for First Nations. *Digital and Artificial Intelligence Ethics: Reference Directory*. 2024. <https://files.cssspnql.com/s/HhwGhIVEkNVCj3f>.



