

BEING **AI**WARE: INCORPORATING CIVIL SOCIETY INTO NATIONAL STRATEGIES ON ARTIFICIAL INTELLIGENCE

CANADA

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INTRODUCTION

Canada has been recognized as the first country with a national AI strategy (NAIS), adopted in 2017. Canada's early adoption of a NAIS and development of responsible AI guidelines (also discussed below) serve as templates for other countries seeking to support the development of AI knowledge and usage while adopting safeguards to promote the respect of human rights.

In 2020, [research into NAISs](#) pointed out that '[t]he vast majority [of NAISs] take the form of a published government document, with a smaller number of governments opting instead to launch dedicated websites, or allocate certain amounts of government spending, while still calling their efforts a "strategy."' Canada's NAIS, the [Pan-Canadian AI Strategy](#), consists of a paragraph about AI in the budget for 2017 dedicating CAD \$125 million to 'Growing Canada's Advantage in Artificial Intelligence' through investing in research and talent. This budget decision launched the NAIS and made the non-profit [Canadian Institute for Advanced Research](#) (CIFAR) responsible for implementation. CIFAR launched and hosts [a website](#) dedicated to the strategy.

Separately from the launch of the NAIS in 2017 and while implementation by CIFAR was ongoing, the Canadian government developed a range of policy instruments to improve responsible use of AI and in particular automated decision-making systems. A multidisciplinary team inside the Treasury Board of the Canadian [Cabinet](#) of ministers first developed a White Paper on 'Responsible Artificial Intelligence in the Government of Canada', then adopted the [Guiding Principles on Responsible Use of AI](#), followed by an [Algorithmic Impact Assessment](#) (AIA) and a [Directive on Automated Decision-Making](#) (ADS) making the AIA mandatory for all branches of government to ensure that they use ADS responsibly. These policy instruments are discussed in more detail below.

THE PROCESS TOWARDS THE NAIS AND AI POLICY INSTRUMENTS

THE PAN-CANADIAN AI STRATEGY

According to CIFAR, Canada adopted its NAIS to support and grow research and development into AI technology and use and invest in and attract Canadian talent in the field. CIFAR states that the government believed that investing in AI talent would create "downstream effects," including drawing interest from industry, generating start-up companies, and building an AI ecosystem

comprised of researchers, entrepreneurs, investors, companies, and academic partners. During an interview, CIFAR acknowledged the expertise of civil society; however, we have not observed a concerted effort on CIFAR's part to include civil society organizations in the AI ecosystem in Canada.

It was [quite rare](#) in 2017 for a federal government to earmark money in the national budget to fund AI; the Canadian government's decision to do so demonstrated broad and concrete support to invest in AI. Although the [paragraph in Canada's budget](#) is recognized as Canada's NAIS, its focus is on investment in talent and research, a relatively narrow scope for a NAIS. The budget, for example, does not include an objective to tackle possible challenges related to AI. We are not aware of the process inside the government that led to this decision to limit the scope of the NAIS to investment in talent and research, and do not know which stakeholders were consulted in the process to create the NAIS.

POLICY INSTRUMENTS TO ENSURE RESPONSIBLE USE OF AI

The same year that CIFAR started its work, a multidisciplinary team was established inside the Treasury Board to 'examine the policy, ethical, technical, and legal considerations around the use of this technology [AI] within the Government of Canada' ([White Paper, par 5.1](#)). This team first drafted a White Paper outlining the Canadian government's position on government use of AI. In [an informal blog post](#), the leading policy official working on the White Paper described the drafting process as "way out in the open" while "looking for ongoing feedback and collaboration by experts from around the world in data science, privacy, human rights, customer service, and more." However, it is unclear from the post how the group solicited and included input from diverse stakeholders. A version of the White Paper, dated April 2018 and appearing almost finished, is [accessible on Google Docs](#), but we have not found a final version of the White Paper that was adopted by the government.

The multidisciplinary team also led the development of [Guiding Principles](#) to ensure effective and ethical use of AI, though the Treasury did not describe this work as part of the 'National AI Strategy.' To provide targeted and meaningful guidance for the specific issue of the use of ADS within the field of AI, the government launched the [Directive on Automated Decision-Making](#) in March 2019. The Directive requires the completion of an Algorithmic Impact Assessment (AIA) prior to the production and use of any ADS system by government branches. The AIA is a questionnaire designed to assess and mitigate the risks associated with deploying an automated decision system by the government. The team intended to work on specific guidance on other AI issues such as facial recognition in a later stage.

GLOBAL STANDARDS ON AI

Canada has also positioned itself as a frontrunner in diplomatic efforts to support rights-respecting use of AI across the globe. For example, the [Montréal Declaration on Responsible Development of Artificial Intelligence](#) is a set of ethical guidelines for the development of AI, initiated by the Université de Montréal. Canada has established the [Global Partnership on AI](#) to support the responsible and human-centric development and use of AI and spearheaded the development of the intergovernmental [statement on AI and human rights](#) that was adopted by the 32 countries of the Freedom Online Coalition.

WHAT IS THE PERCEPTION ON INCLUSION AND PARTICIPATORY PROCESSES?

PAN CANADIAN AI STRATEGY

As implementer of the Pan Canadian AI Strategy, CIFAR gained extensive knowledge about the Canadian AI ecosystem, including new developments and opportunities and challenges encountered by people working on and using AI. CIFAR appears to be well-respected by and well-connected to the Canadian government and makes use of this relationship to share input on the government's AI policy processes. CIFAR's executives collaborate with various branches of the government and provide recommendations through publications and informal conversations with government officials. However, the government does not have any obligation to adopt or implement CIFAR's recommendations.

In May 2019, CIFAR's [Rebooting Regulation report](#) specifically recommended increased dialogue between governments, corporations, and civil society on AI "to ensure that harms are identified and addressed, and that policy adequately reflects public interest objectives and addresses concerns from specific groups." It also noted the need for AI regulation and legislation to ensure "responsible" AI development, implementation, and use, further explaining the need to "ensure AI is designed and aligned with human rights regulations." In the same month, the department that works to foster a growing, competitive, and knowledge-based Canadian economy (Innovation, Science, and Economic Development (ISED)), established the [Advisory Council on Artificial Intelligence](#) to advise the government on AI policy issues. Although related, it is hard to link the establishment of the Council directly to the recommendation of CIFAR. Currently, aside from the executive director of CIFAR there is no representation of civil society in this Advisory Council. According to CIFAR, the academic member Marc-Antoine Dilhac brings an ethical and social lens to the discussion on AI in his role on the Advisory Council. The Advisory Council established a new working group in January 2020 on Public Awareness to develop a baseline understanding of AI literacy in Canada, and a strategy for

engaging the public more broadly on AI-related discourse. We have not been able to confirm that this approach has led to inclusiveness in practice.

During our interview, CIFAR acknowledged the need to integrate human rights into its work program and expressed ambition to engage civil society organisations more, primarily via its [AI & Society program](#). The AI & Society program develops thought leadership on the economic, ethical, political, and legal implications of advances in AI, through hosting workshops on fundamental challenges posed by AI, and building cross-sectoral networks to develop governance solutions for responsible AI, among other activities. However, the government-allotted funding on AI was established for five years only and the government does not have any obligations to continue funding the AI strategy. This leads to the risk that CIFAR's prioritization of human rights considerations and engagement with civil society could lose momentum if financial uncertainty increases.

AI POLICY INSTRUMENTS

The process to develop the White Paper, Directive and AIA was remarkably innovative and consultative. The multidisciplinary team decided to publish its first version of the White Paper on Google Docs in November 2017. The team allowed interested individuals from outside the government to make suggestions directly to the document and used the Google Doc as a basis for consultation with other government branches.

The team's use of Google Docs disrupted formalized government processes for collaboration and input. This unusual input process was made possible by the strong support of the Chief Information Officer (CIO) of Canada. While the use of Google Docs allowed the team to develop the Paper continuously and transparently, this informal approach lacked conventional government procedures with deadlines for comments and security protections. This may have resulted in restraint from other government departments in providing input. Another challenge in soliciting input from other government departments was the knowledge and skills gap on AI, as most departments had been slow to hire for an AI-related skillset. It is also possible that other stakeholders may have refrained from inputting on the Google Doc due to similar concerns about the unconventional participatory process.

Understanding the risk that some stakeholders may refrain from sharing input through an unconventional process, the team made specific efforts to solicit inputs from diverse stakeholders. To solicit input from those outside the government, the team used their personal social media accounts to publicize the opportunity to contribute to draft documents. The lead policy official published his reflections on the process on Medium every couple of months and responded to comments. The team

was mindful of targeting people working outside the tech-sphere and organized a “roadshow” to engage non-governmental stakeholders. The team travelled across Canada five times in seven months to work in public to encourage people to engage in the input process. Working from various locations across Canada enabled the team to ask passersby in person to visit the Google Doc and try an app designed to demonstrate the beta-version of the AIA. This proved to be very effective to engage with people on the topic of AI. The team also actively reached out to NGOs to ask them to help facilitate participation of minority groups through their networks. An official involved in the process also mentioned that the team used the formal e-participation tool GCTools to solicit public input, but we have not found record of the consultations, though Canadian government’s [website](#) does list a range of consultative meetings about the Directive and the AIA that occurred through March 2019. We are not aware of any ongoing consultation about the AI policy instruments, although the AIA is mandated to go through a review process every six months.

GLOBAL STANDARD-SETTING ON AI

Canada’s efforts to contribute to global standard-setting on AI are characterized by participatory processes. The Montréal Declaration on Responsible Development of Artificial Intelligence was informed by deliberation through consultations that ‘[sparked exchanges between over 500 citizens, experts and stakeholders from every horizon](#).’ The FOC’s statement was developed through a highly inclusive processes consulting many stakeholders including civil society and academic experts from across the globe.

IMPLEMENTATION OF THE NAIS

CIFAR focused on the establishment of three national AI institutes during the first phase of the implementation of the Pan-Canadian AI Strategy: [Amii](#) in Edmonton, [Mila](#) in Montreal, and [Vector Institute](#) in Toronto. CIFAR also established programs for researchers and collaboration during this time. It appears that at least in the first phase of implementation, CIFAR did not focus on the actual deployment and impact of AI systems by public and private actors, or to any risks to the exercise of human rights accompanying the use of AI systems.

CIFAR has ramped up its efforts related to responsible use of AI in the second phase of implementing the strategy. For example, the AI & Society work stream hosts workshops that cover themes like AI and democracy and human rights such as privacy. CIFAR admits that there is a need for greater inclusion of human rights in the implementation of the strategy and refers to the Montreal Declaration as a guiding document for this end. According to CIFAR, the existing Public

Engagement working group of the AI Advisory Council will work to integrate the Montreal Declaration into the implementation activities of the second phase. However, a commitment to integrate the Montreal Declaration into implementation of the strategy, explicit references to human rights, Canada's obligations to protect these rights, or human rights risks related to development and use of AI are absent from CIFAR's main publications and webpages on the AI strategy.

Finally, as noted above, CIFAR's AI & Society program aims to offer 'global thought leadership on the economic, ethical, policy and legal implications of advances in artificial intelligence.' The White Paper 'Responsible Artificial Intelligence in the Government of Canada' contains a chapter referring to international human rights obligations, but we have not identified any reference to this document on CIFAR's website dedicated to the strategy. Moreover, CIFAR has begun integrating programs that relate to human rights into its implementation of the NAIS without explicit reference to human rights. For example, one work strand in the AI & Society program led to a [position paper](#) for designing ethical AI through an Indigenous-centred approach that does not explicitly recommend a human rights-based approach to AI. CIFAR also organizes and supports workshops that focus on fundamental challenges posed by AI, such as bias in AI, but the role of human rights in these workshops is unclear.

It is not clear how or if CIFAR incorporates the human rights implications of AI into its work; while CIFAR clearly prioritizes *responsible* AI, it does not mention human rights and fundamental freedoms in its the webpages or key publications. Furthermore, CIFAR does not have a targeted mechanism for engaging with non-governmental organisations, such as human rights groups or organisations representing minority groups of professions that might be impacted by deployment of AI.

CONCLUSIONS AND RECOMMENDATIONS

The work of CIFAR on the Pan Canadian AI strategy has contributed to a fertile and vibrant ecosystem of AI researchers and talent. We would recommend that civil society and government engage with this ecosystem to help develop AI applications, policy and regulation that promotes and protects human rights. Engagement could take the form of hiring AI specialists to work with and learn at human rights organizations and relevant government offices or building lasting relationships for knowledge-sharing between AI researchers and the public sector.

The open and innovative consultation process towards building AI policy instruments is remarkable and provides an inspiring example for other countries developing AI laws and policies. One risk however is a lack of transparency and accountability. We learned about the consultation process primarily through an interview and informal blog posts by a government official. Furthermore, we have not been able to find the final version of the White Paper on responsible AI or updated information about consultative activities. We have also been unable to find information on how the strategy and policy instruments have been discussed with other government stakeholders. We would recommend that the government follow its initial positive example of openness by publishing timely updates on its AI policy instruments and any associated consultative processes.

Canada is a driving force for the development of international norms and standards on AI. However, a domestic normative equivalent that grounds Canadian AI policy or references to these international processes or existing international human rights law appear to be missing. We would recommend CIFAR, ISED and the Treasury to explicate better how their programs and policies relate to and strengthen international norms and standards on safeguarding human rights while developing and using AI.

Our final recommendation is to create a holistic National AI strategy for Canada, ideally using the taxonomy that was developed by GDPi and GPD and leveraging the experiences gained over the years at CIFAR and in the government administration. A more holistic and detailed NAIS would enhance transparency about Canada's AI policies and enable a review of policy instruments with sound consultation processes that include civil society. This would not only benefit Canadian citizens but also provide other countries with an example of best practice for developing an AI strategy.



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