Artificial intelligence (AI) has been identified as an important economic driver with the potential to optimize industrial efficiency and create opportunities for innovations in all sectors of the economy. However, ensuring responsible AI development and deployment while staying competitive remains a key challenge that each country continues to navigate.

Given similar economies and shared borders, Canadian and U.S. leaders in AI development and adoption have the opportunity, through greater collaboration, to promote mutual economic growth.

On January 15th, 2020, in partnership with the U.S. Department of State and Innovation, Science and Economic Development Canada, CIFAR convened 20 experts from across government, civil society, academia and the private sector to explore how innovative approaches to public policy can support the development of competitive AI strategies, while mitigating potential societal risks.

**IMPACTED STAKEHOLDERS**
- Governments and policymakers
- Companies, business owners and employers
- Small- and medium-sized businesses
- Economists
- Business analysts
- Investors and venture capitalists
- Large corporations

**KEY INSIGHTS**
- National strategies focus on research capacity and talent, but less so on capacity for research application and business. AI researchers are important, but engineers who can apply the fundamentals of AI are still needed. There is a business skills gap in engineering circles, and a gap in technical knowledge with businesses.
- Large corporations have the means and incentives to reskill and support labour forces, and prefer to employ in-house training. SMEs and public agencies are being challenged to provide new training programs so that they and their workers do not fall behind these larger companies.
- Retraining and upskilling alone is not enough to prevent labour disruption. Social safety would provide the stability necessary to make retraining feasible. Examples of safety nets could include employment insurance programs and subsidies for reeducation programs.
- Conversations about ethics in AI have been ineffective and cyclical because ethics are hard to define. Addressing statistical bias may be a way to tackle a tangible aspect of AI that has ethical implications.
- Canada has strengths in research. The US has particular strength in commercialization. There is an opportunity for the two countries to collaborate and leverage their respective advantages for economic gains.
- Regulatory obstacles, such as differences in tax laws, trade regulations, tariffs and immigration policies, act as barriers for efficient and effective collaboration across the border. Better coordination across sectors is needed to improve the flow of goods and services.
- Established start-ups and SMEs, along with larger corporations, can contribute to a symbiotic ecosystem that supports one another and absorbs economic shocks. For example, the Toronto-Waterloo region was able to absorb workers and specialists in the wake of BlackBerry’s difficulties, preventing larger economic disruptions in the area.
- Public data literacy is necessary for building trust and building capacity for technical skills with a broader population.
RECOMMENDATIONS AND NEXT STEPS

- More flexible flows through the Canadian-US border need to be supported for better movement of labour, which will support access to talent and capital from either side. This can be done through improved coordination of immigration policies, such as better access to visas, which will allow for more seamless and productive travel between countries.

- Canada and the US need to develop their own framework for ethical and responsible deployment of AI that specifically reflects the North American context. While it may be easiest to adopt existing frameworks, like the General Data Protection Regulation, these frameworks may not align with North American values. Such a framework should be developed in collaboration by the public, civil and private sectors of Canada and the US.

- Codes of ethics need to be applied to technologies more broadly, and not solely for AI. Moreover, existing principles for privacy regarding surveillance can be adapted for AI contexts.

- Testing grounds, like sandboxes, should be established to test and develop regulatory models in contained safe spaces. This allows actors to experiment with solutions before they are put into practice, identifying and mitigating risks before regulations are enacted.

- Certificate programs for machine learning should be established to equip workers with the skillset to apply AI in practice, so that non-tech companies can leverage tech resources. This will address the widespread skills gap in organizations without AI research experts.

- Computer scientists and engineers should be trained to incorporate ethical values and considerations into their practices by developing curricula for post-secondary programs and professional standards.

- Canada and the US need to capitalize on professional training for business development and continue building senior management skills. Senior leadership that drives AI adoption is an advantage over other countries and needs to be fostered to promote economic impact.

- Data trusts can be established as a mechanism for sharing data within sectors where data is less personal, such as natural resources or energy. These data can be used towards the public good, promote innovation and research, and present governance models for more sensitive forms of data. Data should be made more open and shared across sectors and organizations.

In partnership with
Innovation Science and Economic Development Canada
U.S. Consulate General in Toronto

Learn more at cifar.ca/ai/ai-society