



NOTE FOR NATIONAL DEFENCE:

Public and Defense Policy Challenges and Innovations on Artificial Intelligence, Autonomous Systems, and Cybersecurity, Part 9: Ethical AI in Defence

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Summary

- ✚ Artificial intelligence (AI) still remains a relatively new field, so discussing it and defining its policies proves challenging. Regulating or governing AI will likely bring about many firsts as well as many unknowns [1].
- ✚ The East Asian countries such as the Chinese, Japanese, and Korean governments have begun to develop comprehensive and energetic AI policies. East Asia, therefore, can present invaluable case studies to Canadian policy-makers struggling with the development, deployment, and regulation of artificial intelligence [1].
- ✚ Each of the three East Asian nations (China, Japan, and South Korea) views AI as incredibly important to their competitiveness, and they all have taken national steps towards AI implementation. These countries' national AI strategies are extremely broad, covering everything from AI research and development (R&D) to various economic applications of AI [1].

CONTEXT

The development of AI in East Asia has three key benefits for Canadians [1].

- ✚ Firstly, a number of countries, such as China, Japan, and South Korea, have developed extensive and forward-looking AI approaches that can suggest lessons to Canadian policy-makers. The East Asian governments have each created comprehensive national plans that enable policy-makers, academics, scholars, and industry stakeholders to collaborate to advance AI research and development. As part of the Chinese strategic plan, AI will be combined into their economies and societies over the long-term.
- ✚ Secondly, for Canada's future engagement with East Asia, understanding East Asian AI is essential. Countless economic and political opportunities exist for Canada with these Asian countries. Canada's five and seven largest trading partners are Japan and South Korea. Also, both

countries share similar political values and are important partners in multilateral negotiations. In East Asian governments, AI is being used to transform their economies and society, posing new challenges in trade and diplomacy. Canada should deepen its understanding of Asian AI development as part of a continued engagement in Asia.

- ✚ Thirdly, East Asian AI development emphasizes the rise of an AI race and the importance of Canada to define its role in this regard. Considering developments in AI in East Asia, there appears to be a global understanding of AI and a subsequent race or geopolitical positioning of AI. It is clear that AI development is viewed as a national-scale project in East Asia, with implications in many areas of society.

CONSIDERATIONS

The national strategies of different East Asian countries are [1]:

✚ CHINA: AI development / Short- and long-term goals [1], [2]

- ❖ Catch up with other countries and governments in terms of AI research and application-2020.
- ❖ Obtain significant discoveries academically and be world-leading in application-2025.
- ❖ Become the world's primary AI innovation center (global leader in AI) in both research and application-2030.

✚ CHINA: AI governance principles/ Developing responsible AI [1], [3], [4]

- ❖ Agile governance
- ❖ Fairness and justice
- ❖ Harmony and human-friendly
- ❖ Inclusion and sharing
- ❖ Open and collaboration
- ❖ Respect for privacy
- ❖ Safety and controllability
- ❖ Shared responsibility

✚ JAPAN: AI development/ The Growth Strategy of Japan to introduce the following goals

- ❖ Government resources' Investment in strategic and crucial domains, leveraging Japan's power and force.
- ❖ Developing and expanding data policies for inter-connected data utilization across various domains and public data for private division requirements.
- ❖ Supporting individual-focused adult education (teaching and learning) and strengthening of information technology (IT) skills of citizens and residents.
- ❖ Introducing a "regulatory sandbox system" to analyze and examine novel opinions and approaches.
- ❖ Connecting the measures as mentioned earlier to an extensive range of regions, companies, and people.

✚ JAPAN: AI research and development principles (R&D) [1], [5]

- ❖ Collaboration's principles: developing AI systems should consider interlinking and interoperating them (mainly reducing risks associated with AI).

- ❖ Transparency's principles: when designing AI systems, developers should consider the verifiability of inputs/outputs and the explainability of their judgments.
- ❖ Controllability's principles: the controllability of AI should be taken into account by developers.
- ❖ Safety's principles: when developing AI systems, developers must ensure that the systems won't adversely affect users, property, or the body or health of third parties.
- ❖ Security's principles: developing AI systems should take security into account.
- ❖ Privacy's principles: it is important for developers to make sure AI systems do not violate user or third-party privacy.
- ❖ Ethics' principles: in AI system development, developers must consider human dignity and individual autonomy.
- ❖ User assistance's principles: in the process of developing AI systems, developers must consider that they will support users and provide them with opportunities to make appropriate choices.
- ❖ Accountability's principles: in addition to satisfying stakeholders, developers should also meet their obligations to users of AI systems.

JAPAN: JSAI Ethical Guidelines

In 2014, a Japanese Ethics Committee was established by the Japanese Society of Artificial Intelligence (JSAI). In early 2016, the Ethics Committee began drafting a Code of Ethics. Then, in May 2017 the Japanese Society for Artificial Intelligence Ethical Guidelines were published by the Ethics Committee. The Guidelines emphasize social responsibility and effective communication with society for AI researchers. The JSAI Ethical Guidelines are:

- ❖ Contribution to humanity
- ❖ Abidance of laws and regulations
- ❖ Respect for the privacy of others
- ❖ Principle of fairness
- ❖ Principle of security
- ❖ Acting with integrity
- ❖ Accountability and social responsibility
- ❖ Communication with society and self-development
- ❖ Abidance of ethics guidelines by AI

SOUTH KOREA: AI development goals

- ❖ Develop a technological foundation of world-class quality
- ❖ Develop an intelligent industry
- ❖ Revise and update existing social policies and regulations

SOUTH KOREA: Seoul Publicness, Accountability, Controllability, and Transparency (PACT) Guidelines

- ❖ **Publicity:** With the advent of intelligent information technology, everyone should benefit, and its economic benefits should be spread widely for the greater good of everyone around the world and country.
- ❖ **Accountability:** Identify the implications of intelligent IT and related services for distributing information on safety, protecting the rights of users, and other social responsibilities.
- ❖ **Controllability:** Identify and implement preemptive measures to deal with malfunctions of intelligent IT and services, as well as to guarantee choice rights for the users.
- ❖ **Transparency:** Research and development should reflect user, consumer, and citizen opinions, disclose safety issues during use, and ensure the proper handling of personal information.

Comparison of ethical guidelines of China, Japan, South Korea, and Canada

CHINA:

- ❖ **Privacy:** respect for privacy
- ❖ **Justice:** fairness and justice
- ❖ **Safety:** safety and controllability
- ❖ **Responsibility:** shared responsibility
- ❖ **Society and Governance:** inclusion and sharing, agile governance
- ❖ **Human-centric well-being:** harmony and human-friendly
- ❖ **Other:** open and collaboration

JAPAN:

- ❖ **Privacy:** respect for the privacy of others
- ❖ **Justice:** principle of fairness
- ❖ **Safety:** principle of security
- ❖ **Responsibility:** acting with integrity, accountability and social responsibility
- ❖ **Society and Governance:** abidance of laws and regulations, communication with society and self-development
- ❖ **Human-centric well-being:** contribution to humanity, abidance of ethics guidelines by AI

SOUTH KOREA:

- ❖ **Privacy:** -----
- ❖ **Justice:** -----
- ❖ **Safety:** controllability, transparency
- ❖ **Responsibility:** accountability
- ❖ **Society and Governance:** publicness
- ❖ **Human-centric well-being:** -----

CANADA:

- ❖ **Privacy:** privacy and intimacy
- ❖ **Justice:** equity
- ❖ **Safety:** prudence
- ❖ **Responsibility:** responsible
- ❖ **Society and Governance:** solidarity, democratic participation, diversity inclusion, sustainable development
- ❖ **Human-centric well-being:** well-being, respect for autonomy

NEXT STEPS

More policy implications and decision-making recommendations, observations, and guidelines by the defense policy-makers and defense decision-makers will be examined in the subsequent report. In addition, the mentioned cases will be studied and researched in the field of superpower countries.

References

[1] "ARTIFICIAL INTELLIGENCE POLICIES IN EAST ASIA: AN OVERVIEW FROM THE CANADIAN PERSPECTIVE" *ASIA PACIFIC FOUNDATION OF CANADA* (2019).

[2]<https://chinacopyrightandmedia.wordpress.com/2017/07/20/a-next-generation-artificial-intelligence-development-plan>

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[4] <http://www.chinadaily.com.cn/a/201906/17/WS5d07486ba3103dbf14328ab7.html>

[5] Ministry of Education, Culture, Sports, Science and Technology Basic Plan– Japan. Acceptable Intelligence with Responsibility, Perspectives on Artificial Intelligence/Robotics and Work/Employment.

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