

Artificial Intelligence: Myths and Misconceptions

- Debunking Common AI Myths
- Myth 1: AI Will Surpass Human Intelligence Soon
- Myth 2: AI Can Make Ethical Decisions
- Myth 3: AI is an Independent Actor
- Towards an Informed Policy Framework on AI



JOINT COUNCILS' EXECUTIVE MONTHLY REPORT

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1. Introduction: Debunking Common AI Myths

In the realm of contemporary technology, few terms elicit as much fascination and apprehension as Artificial Intelligence (AI). It's a field replete with potential, yet it is equally prone to inflated expectations and misunderstandings.

Given the high stakes involved, particularly in areas like national security, public welfare, and economic development, it becomes important for policymakers to sift through the maze of myths surrounding AI.

Such discernment will be instrumental in formulating policies that are both progressive and cautious, guiding us toward a future where AI is a lever for innovation rather than a catalyst for unwarranted concerns.

Clarifying misconceptions about AI is not an intellectual luxury but a pragmatic necessity. The fallacies surrounding AI can distort policy agendas, leading to misguided investments or, conversely, undue restrictions hindering its potential but also expose society to risks that could have been anticipated and managed.

The objective of this report is to equip policymakers with an accurate, nuanced understanding of what AI can and cannot do through deliberating on some common myths.

This clarity is the cornerstone for effective governance, enabling policymakers to chart a course that maximizes benefits while mitigating risks serving as a foundational resource for informed, responsible policy formulation.

Why Is This Report Important?

Artificial intelligence is not just a technological issue; it's a societal one that impacts various sectors, from healthcare to defense. Unfounded beliefs and misconceptions can drive policy in directions that are not just inefficient but also potentially dangerous.

Therefore, clearing the fog surrounding AI is not an option but a necessity. Ignorance or misunderstanding about the real capabilities of AI can also lead to public fear or unwarranted optimism. A misinformed public is less likely to support beneficial AI initiatives, and more likely to support policies that stifle innovation or misallocate resources.

Finally, as we move further into an era where AI becomes a cornerstone of various aspects of governance, having a cadre of policymakers who are well-informed about what AI can and cannot do is essential. This report serves as a foundation for that knowledge, a starting point for more nuanced, effective policymaking.

What is Covered in this Executive Report?

This report includes the following:

- Introduction: Debunking Common AI Myths
- Myth 1: AI Will Surpass Human Intelligence Soon
- Myth 2: AI Can Make Ethical Decisions
- Myth 3: AI is an Independent Actor
- Conclusion: Towards an Informed Policy Framework on AI

2. Myth 1: AI Will Surpass Human Intelligence Soon

One of the most pervasive myths is the notion that AI will soon surpass human intelligence. This misconception is often fueled by sensationalist media and misunderstandings of what AI actually is.

Many people conflate narrow AI, which is designed for a specific task, with AGI. The term "Artificial General Intelligence (AGI)" is frequently misused. AGI refers to machines that possess the ability to understand, learn, and apply knowledge across diverse domains, something current AI is far from achieving.

This often leads to inflated expectations and can misguide policy decisions related to research funding and regulation. It is often suggested that a machine has achieved human-level intelligence if it can converse in a way indistinguishable from a human. However, just because a machine can mimic conversation doesn't mean it understands or possesses consciousness. Similarly, the idea that machines will eventually become so advanced that they will exponentially self-improve without human intervention is often brought up. While this is a topic of considerable debate, there's no consensus on its likelihood or its immediate occurrence. Leading experts in the field have a range of views on the timeline for achieving such advanced states of machine intelligence, and it remains an open question.

Therefore, policy should not be based on speculative timelines. Research in AI is progressing, but it is constrained by current technology, ethical considerations, and our understanding of intelligence itself.

Overall, the risk of an "intelligence explosion" is often overstated and under-examined. There is no consensus in the scientific community about the plausibility of such an event.

Overestimating the proximity of AGI can lead to premature policy decisions, misallocation of resources, and unnecessary public concern.

At the same time, underestimating the complexities involved can result in complacency, leaving us unprepared for genuine advances that do warrant regulatory attention.

Debunking Common Myths About AI

MYTHS

FACTS

AI Will Replace All Human Jobs



AI augments human abilities and automates repetitive tasks. Many jobs require human intuition and empathy

AI Understands Emotions Like Humans



AI can recognize patterns but lacks genuine emotional understanding

AI Can Surpass Human Intelligence (Superintelligence)




Current AI is specialized and lacks general intelligence or consciousness

Sources: Natale, Simone, and Andrea Ballatore. "Imagining the thinking machine: Technological myths and the rise of artificial intelligence." *Convergence* 26, no. 1 (2020): 3-18. Khanam, Sana, Safdar Tanweer, Syed Khalid, and Domenico Rosaci. "Artificial intelligence surpassing human intelligence: factual or hoax." *The Computer Journal* 64, no. 12 (2019): 1832-1839.

3. Myth 2: AI Can Make Ethical Decisions

AI systems, while powerful in analyzing data and executing specific tasks, lack the inherent qualities required to understand or enact ethical decisions. This misconception could lead to problematic deployments of AI in domains requiring nuanced ethical judgments.


AI in Legal Frameworks



- While AI systems can analyze legal documents and even predict case outcomes based on historical data, they are not yet capable of understanding the nuanced ethical implications that often come into play in legal proceedings. This is because AI lacks a foundational understanding of justice, fairness, and the sociocultural contexts that underpin legal systems.

- Furthermore, relying on AI for legal decisions could undermine the integrity of the justice system by eliminating the human element, which is crucial for ethical considerations. Machines cannot be held accountable for their decisions, creating a potential vacuum in our ethical and legal structures.


AI in Economic Policies



- AI algorithms are increasingly being used to guide economic policy, from fiscal measures to market regulations. However, these algorithms can't grasp the ethical implications of economic disparity, social welfare, or the long-term sustainability of economic actions.

- The application of AI in economic decision-making also raises questions of democratic accountability. If policy is determined by algorithms, the process becomes opaque, and citizens may find it difficult to hold their leaders accountable for the ethical implications of their decisions.


AI in Cultural Contexts



- There is a growing trend of using AI for cultural analysis, such as interpreting art or literature. While this can offer new insights, the ethical dimensions of cultural representation and interpretation are beyond the grasp of current AI systems.

- This extends to the AI-generated content that is becoming more prevalent in our digital landscapes. While these may seem benign or even innovative, they could carry unintended ethical implications related to cultural appropriation, representation, and authenticity.

AI in Public Safety



- AI systems used in surveillance and public safety applications are often touted for their efficiency. However, they lack the ability to make ethical judgments about privacy, individual freedom, and the collective good.

- These systems, if deployed without adequate ethical oversight, could lead to invasive surveillance states or discriminatory practices. In both scenarios, the ethical balance between public safety and individual liberties is something that AI cannot comprehend or uphold.

4. Myth 3: AI is an Independent Actor

AI systems function within the parameters set by their human designers and are reliant on human-generated data for their operations. Believing otherwise risks obfuscating the responsibilities of developers and policymakers, potentially leading to ethical and legal quandaries.



Understand the Source of AI Decisions:

AI systems do not make decisions in a vacuum; they are the result of human-designed algorithms and data sets. Recognizing this fact is essential for attributing responsibility when things go wrong. This understanding can help in implementing more precise accountability mechanisms in AI governance.



Emphasize Ethical Training Data:

The quality of an AI system's training data significantly impacts its operation. Ensuring that this data is ethically sourced and unbiased is crucial for responsible AI deployment. Ethical training data could also contribute to minimizing risks of social and ethical transgressions by the AI system.



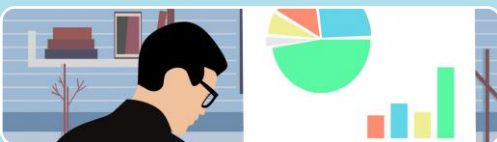
Implement Rigorous Testing Protocols:

Before deploying any AI system, it should be rigorously tested for both functionality and ethical considerations. This would ensure that the system aligns with societal values and legal norms. A robust testing protocol can act as a safeguard against unintended consequences and ethical lapses.



Establish Transparency Standards:

For ethical governance, it is often recommended to have transparency in how AI algorithms function. This would assist in accountability measures and public trust. Transparency could also serve to demystify AI, reducing public fear and misunderstanding.



Set Ethical Boundaries:

Clearly defined ethical guidelines should be established for AI deployment, ensuring that human values and norms are not compromised. Adhering to these guidelines could help maintain the social contract between technology and society.



Mandate Human Oversight:

Incorporating a human-in-the-loop approach in AI systems could ensure that machines do not override human ethics and societal norms, especially in critical decision-making processes. This oversight could be essential to prevent AI systems from making decisions that might be detrimental to individual rights or societal well-being.

5. Towards Guidelines of an Informed Policy Framework on AI



Informed Policy is Effective Policy:

Navigating the complexities of AI requires a nuanced understanding that moves beyond prevalent myths. Policy informed by a balanced understanding of AI's capabilities and limitations could be more effective and equitable. Sound policy decisions based on reliable information could serve as a cornerstone for national strategies on AI.



The Role of Continuous Education:

AI is a rapidly evolving field, and policymakers should stay updated with the latest advancements and ethical considerations. Continuous education could be essential to adapt to this dynamically changing landscape. A proactive approach to learning might better equip policymakers to manage the unforeseen challenges that AI might present in the future.



Interdisciplinary Collaboration is Crucial:

The multifaceted nature of AI could necessitate interdisciplinary collaboration among technologists, ethicists, legal experts, and policymakers to create a holistic policy framework. Such collaboration could lead to more robust and ethically sound policies. A holistic approach would ensure that multiple perspectives are considered, creating a more comprehensive and effective policy strategy.



Public Involvement is Key:

Public opinion and societal values could play a critical role in shaping AI policy. Therefore, public engagement in policy formulation and implementation should be encouraged. Fostering a culture of public participation might help in aligning AI policies with societal values and ethical norms.



Toward a Responsible AI Future:

As we forge ahead into an increasingly AI-integrated future, efforts could be made to ensure that the technology serves humanity ethically and effectively. This would require ongoing vigilance, ethical considerations, and adaptive policies. This path to a responsible AI future could be seen as a collective journey that would need sustained effort from all stakeholders involved.



For Further Reading

- Bewersdorff, Arne, Xiaoming Zhai, Jessica Roberts, and Claudia Nerdel. "Myths, mis- and preconceptions of artificial intelligence: A review of the literature." *Computers and Education: Artificial Intelligence* (2023): 100143.
- Sekar, Maris. "Myths and Misconceptions." In *Machine Learning for Auditors: Automating Fraud Investigations Through Artificial Intelligence*, pp. 73-76. Berkeley, CA: Apress, 2022.
- Wen, He, Faisal Khan, Md Tanjin Amin, and S. Zohra Halim. "Myths and misconceptions of data-driven methods: Applications to process safety analysis." *Computers & Chemical Engineering* 158 (2022): 107639.
- Maier, Holger R., Stefano Galelli, Saman Razavi, Andrea Castelletti, Andrea Rizzoli, Ioannis N. Athanasiadis, Miquel Sànchez-Marrè, Marco Acutis, Wenyan Wu, and Greer B. Humphrey. "Exploding the myths: An introduction to artificial neural networks for prediction and forecasting." *Environmental Modelling & Software* (2023): 105776.

Other noteworthy articles:

- Marrone, Rebecca, Victoria Taddeo, and Gillian Hill. "Creativity and artificial intelligence—A student perspective." *Journal of Intelligence* 10, no. 3 (2022): 65.
- Baeza-Yates, Ricardo, and Pablo Villoslada. "Human vs. Artificial Intelligence." In *2022 IEEE 4th International Conference on Cognitive Machine Intelligence (CogMI)*, pp. 40-48. IEEE, 2022.

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This report includes the following:

- Importance of a Proper Cybersecurity-aware Culture in
- Public Sector Organizations
- Foundations of Cybersecurity Culture in Public Sector
- Strategies for Implementation
- Measurable Objectives and Action Plans
- Challenges, Risks, Opportunities



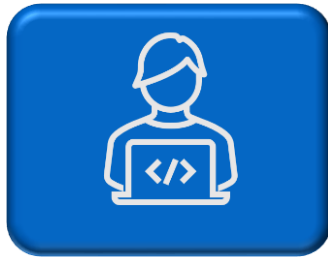
Trends in the Daily Newsletter



[News](#) that online streamers and podcasters will soon be required to register with Canada's broadcasting regulator is raising confusion and concerns that heavier regulation may be coming.

The Canadian Radio-television and Telecommunications Commission announced that online streaming and podcasting services operating in Canada with \$10 million or more in annual revenue in this country, will have to register with it before Nov. 28.

Registration involves providing the legal name of a company, its address, its telephone number and email, and what type of services it offers. In its decision, released Friday, the CRTC called registration a "very light" burden.



The federal Liberal government has made a lot of promises to Indigenous Peoples.

But do those promises line up with what communities on the ground really want and need, or reflect their diversity?

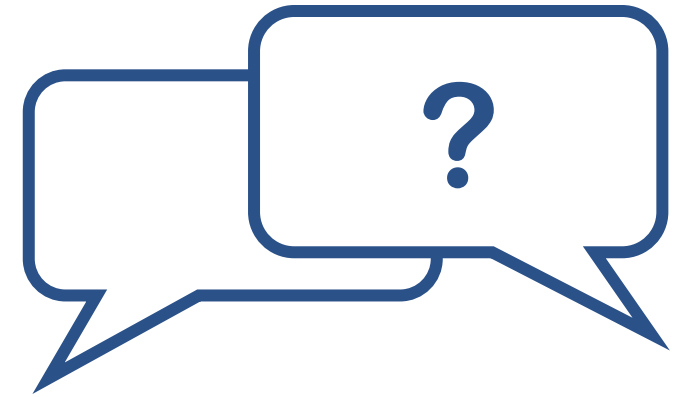
[The Canadian Press](#) spoke with Indigenous community members and leadership to get a sense of what their priorities are and what they think Canadians can do to ensure that truth and reconciliation moves beyond aspiration and into action.



To build on and reinforce this, CISA has a new public safety campaign and website that breaks advice into a few simple, bite-sized steps and explanations.

[The "Secure Our World" website](#), launched Tuesday, includes pages targeted at residents, small-to-medium-sized businesses and tech companies looking to make products secure by design.

"It's the obligation ... of every digital citizen to know how to keep ourselves safe and secure online," said CISA director Jen Easterly during a livestreamed announcement.



We would love to hear from you!

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