



Artificial... and Unintelligent?

Space Law meets the  
*Montreal Declaration for a  
Responsible Development of  
Artificial Intelligence*



# What is AI?

AI is not one technology but a range of techniques that give the appearance of intelligence. AI is applied math and statistics at their very best....

**For lawyers, this lack of definition of AI is a problem.**

... AI raises a series of complex issues that cut across social, economic, political, technological, legal, ethical and philosophical boundaries.

*Artificial Intelligence, more questions than answers (2017)*

INPUT

BLACK BOX

OUTPUT

Spectrum of  
intelligence / independence from human input

Narrow / weak artificial intelligence  
*No self-awareness, focused on specific task(s)*

General/ strong artificial intelligence  
*Can solve puzzles, integrate knowledge  
make judgements, plan and learn*

Computer reservation systems, email traffic, internet services, automated stock trading, self-driving cars, voice and face recognition, business and home service, military tasks, smartphones, digital cameras, translation, cloud computing, spam filters, and technology involved in the storage and retrieval of information.



<https://medium.com/predict/types-of-artificial-intelligence-and-examples-4f586489c5de>

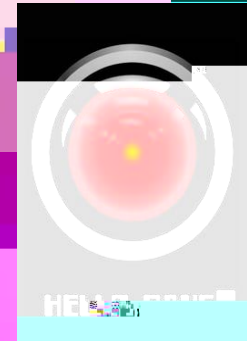
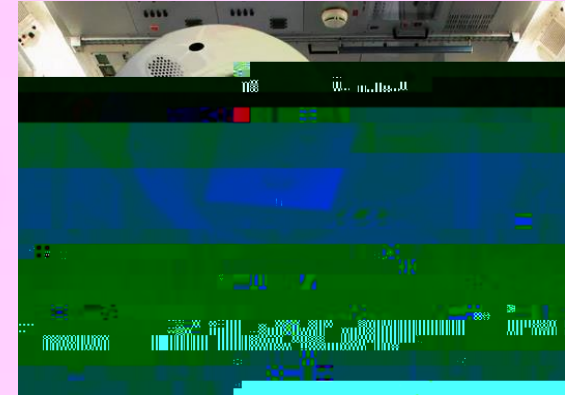
<https://medium.com/intuitionmachine/from-narrow-to-general-ai-e21b568155b9>

[Catel & Castel, The Road to Artificial Super- Intelligence: Has International Law a Role to Play? \(2016\)](https://medium.com/intuitionmachine/from-narrow-to-general-ai-e21b568155b9)

<https://qz.com/989694/the-future-belongs-to-ai-wrote-ke-jie-the-worlds-best-go-player-before-his-match-against-google-deepminds-alphago/>

# AI in space: CIMON ( )

" an interactive AI assistant that can float around the station and help answer astronauts' questions— kind of like a specialized spaceflight cross between Amazon's Alexa and Microsoft's Clippy."



" I'm waiting for your commands!"

" Don't be so mean please!"

" Be nice please!"

" Don't you like it here with me?"



Boeing 737 MAX: grounded!

*Maneuvering Characteristics Augmentation System (MCAS)*

All round AI

## AI Safety, Leaking Abstractions and

Boeing's 737 Max 8



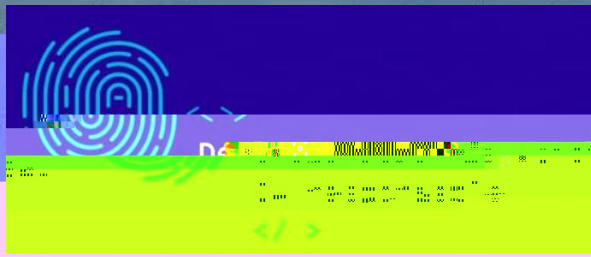
# On regulation of AI

The risks machine learning systems pose must be urgently examined and addressed at governmental level and by the private sector conceiving, developing and, deploying these systems.

Government measures should be binding and adequate to protect and promote rights.

Academic, legal and civil society experts should be able to meaningfully participate in these discussions, critique and advise on the use of these technologies.

*The Toronto Declaration: Protecting the rights to equality and non-discrimination in machine learning systems*



2-3 November 2017

Montreal Forum on the Socially Responsible Development of Artificial Intelligence,

16 May 2018

Principle 1: Protecting the right to equality and non-discrimination in machine learning systems

4 December 2018

Montreal Declaration signed

“ It is incumbent on the various public and private stakeholders and policymakers, at the local, national and international levels, to ensure that the development and deployment of AI are compatible with the protection and fulfilment of fundamental human capacities and goals” .



# Montreal Declaration objectives

No set hierarchy  
the basis for  
intercultural and  
international dialogue

Ethical principles, can  
be translated into  
political language and  
interpreted in legal  
fashion

The Montreal Declaration for responsible  
AI development has three main objectives:

1. Guide the digital transition

2. G

3. achieve equitable, inclusive  
and ecologically sustainable

development:

AI





# 10 Objectives of the Montreal Declaration

5. Democratic participation: AIS must meet intelligibility, justifiability

# 10 Objectives of the Montreal Declaration

8. Prudence: Every person involved in AIS development must exercise caution by anticipating, as far as possible, the potential adverse consequences of AIS use, and by taking appropriate measures to avoid them.

Relevant international law

- *Human rights law*
- *Environmental law*
- *Sustainable development law*

9. Responsibility: The development and use of AIS must not contribute to diminishing the responsibility of human beings when decisions must be made.

Relevant Space Law

- Principle of due regard
- Principle of direct State responsibility for all space activities

10. Sustainable development: The development and use of AIS must be carried out so as to ensure strong environmental sustainability of the planet.

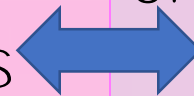
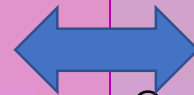
# When space law meets Montreal Declaration

## Space Law

1. Hard laws based on commonly agreed principles of humanity and due regard
2. "Softening" of laws
3. Adoption of codes of conduct and guidelines
4. Faced with the inadequacy of regulation and governance

## AI "Law"

1. Guidelines based on commonly agreed concepts of humanity and due regard
2. Hardening of laws?
3. Adoption of treaties and binding instruments?
4. Faced with the inadequacy of regulation and governance



# Finding synergies between space law and regulation of AI

"In a large sense all legally oriented undertakings relating to the exclusively peaceful use of the space environment have been designed to advance the cause of Human rights and such a legally directed regime must advance mankind's goals and values for order, stability and general well-being."

Carl Q. Christol, "Human rights in outer space" (1968)

"interaction and intersection between the specific international legal regime of outer space and the international legal regulation of human rights has not been the subject of greater considered scholarship"

Steven Freeland & Ram Jakhu, "The intersection between space law and international human rights law" (2017)

The development of space law can inform development and regulation of AI law, and *vice versa*

Human rights considerations can and infuse the strengthening of space law, and development of AI law

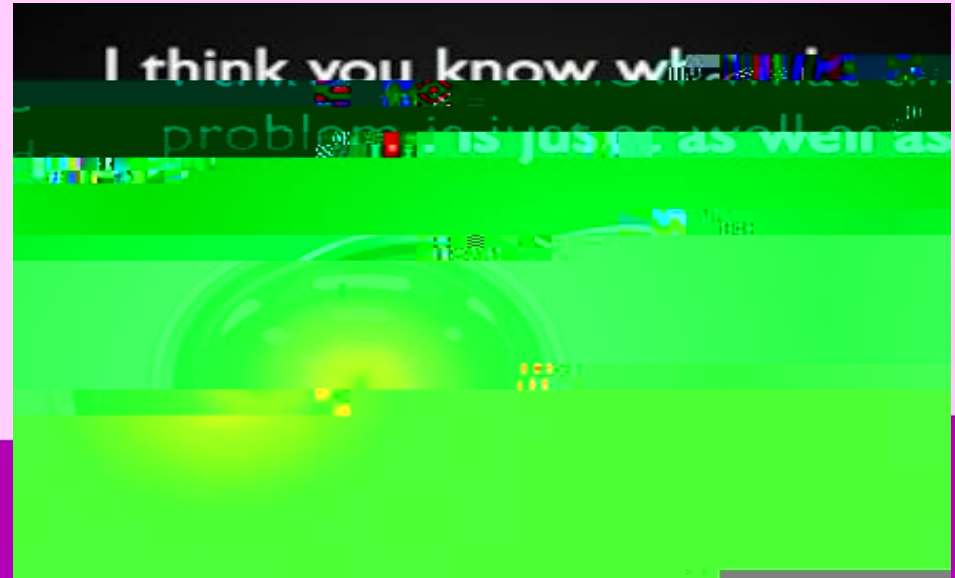
# Parallels of State Responsibility in territories beyond national jurisdiction

Legal regime governing:

The Arctic

High seas / deep sea bed  
the environment

Cyberspace (?)  
outer space



Commonalities:

Presence of non-State actors

Input of non-State actors

Highly technical fields

Public and shared commons

Present and future generations



" So, as AI spreads in society, there is an impact. It's up to us to choose how things play out. The future is in our hands."

Yoshua Bengio, one of the drafters of the *Montreal Declaration*



On the contrary, we need conversation.

Conversation has to be on-going and constant

- Conversation among stakeholders in the space domain

- Conversation between stakeholder in other domains beyond the national jurisdiction of States

Conversation has to be "anthropo-centric" (Manfred Lachs) and has a focus on human rights, human sensitivities and human considerations