

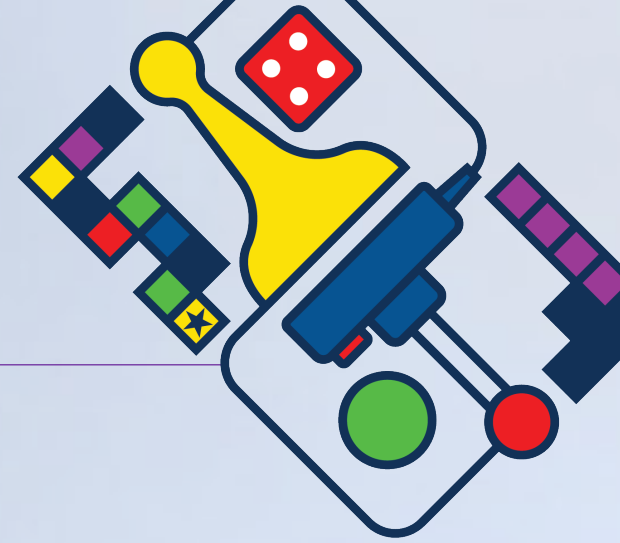


AI: The Regulator's Game

AI IN SOCIAL WORK: NAVIGATING INNOVATION AND REGULATION

AI: The Regulator's Game

This presentation delves into the basics of Artificial Intelligence, its applications, and the evolving landscape of AI regulation in the US and Canada with an analysis of the legal frameworks, ethical considerations, and governance models shaping AI development and deployment. The session aims to foster an understanding of AI governance, highlighting its current status, and future trends to prepare attendees for the challenges and opportunities in the field of AI regulation and social work practice. This session aims to equip attendees with the background and knowledge to navigate the complex terrain of AI legal and ethical considerations.



Objectives for today's session

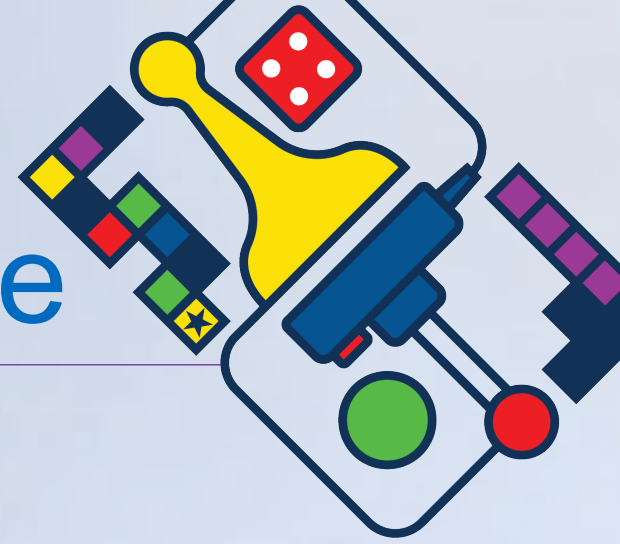


1. Participants will gain basic knowledge of AI and insights into the core principles guiding AI regulation in both the US and Canada, including ethical considerations, accountability, and sector-specific regulations.

2. Learners will explore the similarities and differences in AI regulatory approaches between the US and Canada, with a focus on how each country addresses challenges and opportunities in AI governance.

3. Attendees will be equipped to anticipate future trends in AI regulation, understanding the potential challenges and opportunities that lie ahead for AI governance.

Understanding Artificial Intelligence



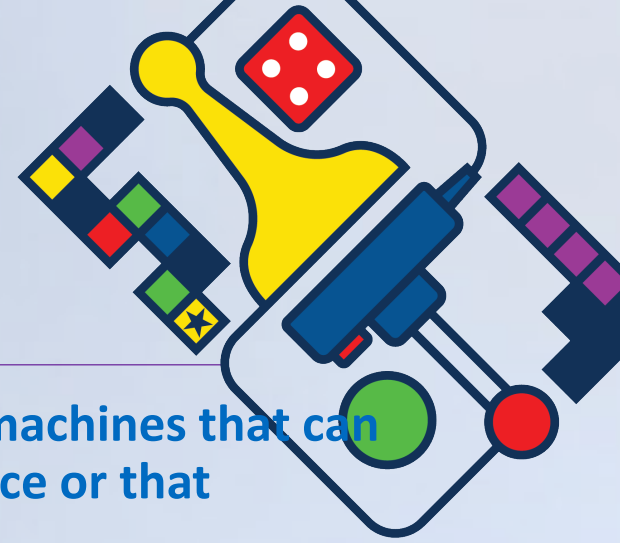
What is AI?

Brief history and evolution

AI in everyday life



What is artificial intelligence?



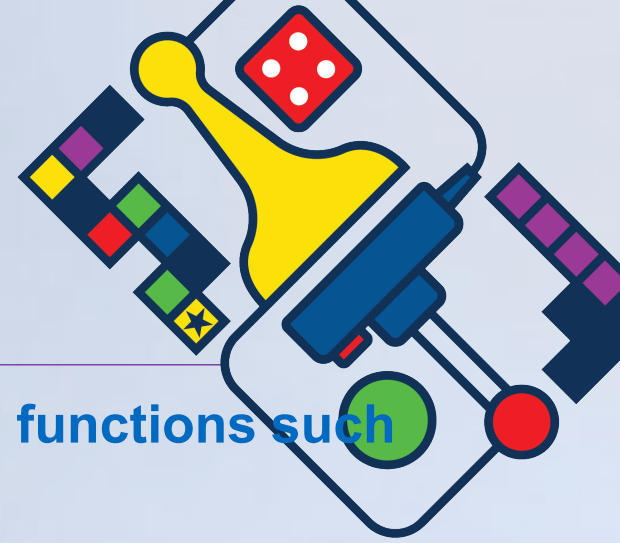
Artificial intelligence is a field of science concerned with building computers and machines that can reason, learn, and act in such a way that would normally require human intelligence or that involves data whose scale exceeds what humans can analyze.

AI is a broad field that encompasses many different disciplines, including computer science, data analytics and statistics, hardware and software engineering, linguistics, neuroscience, and even philosophy and psychology.

On an operational level for business use, AI is a set of technologies that are based primarily on machine learning and deep learning, used for data analytics, predictions and forecasting, object categorization, natural language processing, recommendations, intelligent data retrieval, and more.

- <https://cloud.google.com/learn/what-is-artificial-intelligence>

What is artificial intelligence?



It's the capability of a computer system to **mimic** human-like cognitive functions such as learning and problem-solving.

Using math and logic, a computer system simulates the reasoning that humans use to learn from new information and make decisions.

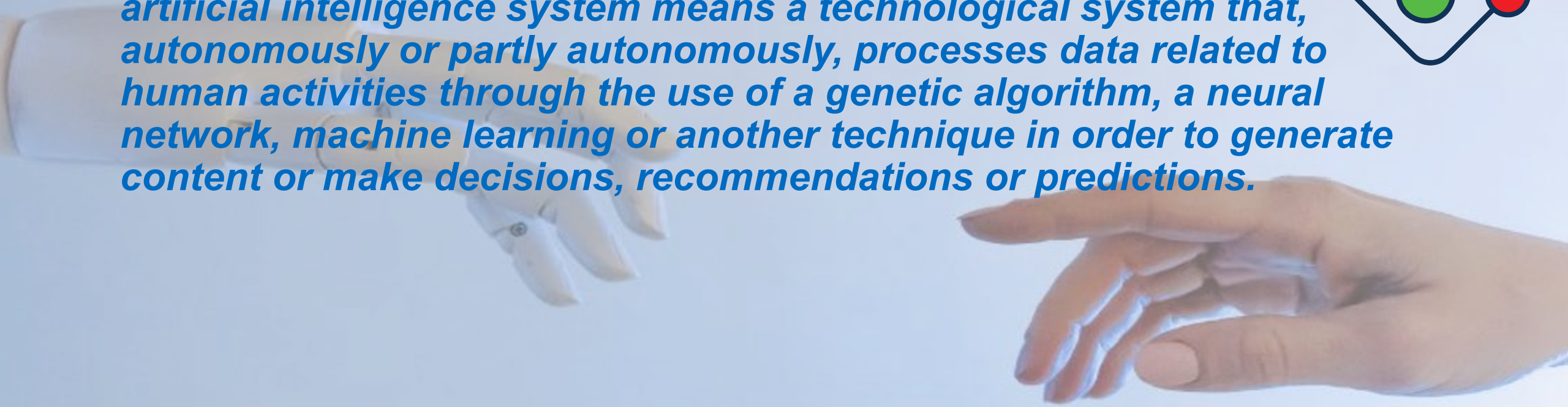
An artificially intelligent computer system makes predictions or takes actions based on patterns in existing data and can then learn from its errors to increase its accuracy. A mature AI processes new information extremely quickly and accurately, which makes it useful for complex scenarios such as self-driving cars, image recognition programs, and virtual assistants.

<https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-artificial-intelligence>

Artificial Intelligence and Data Act (AIDA) - regulation of AI in Canada



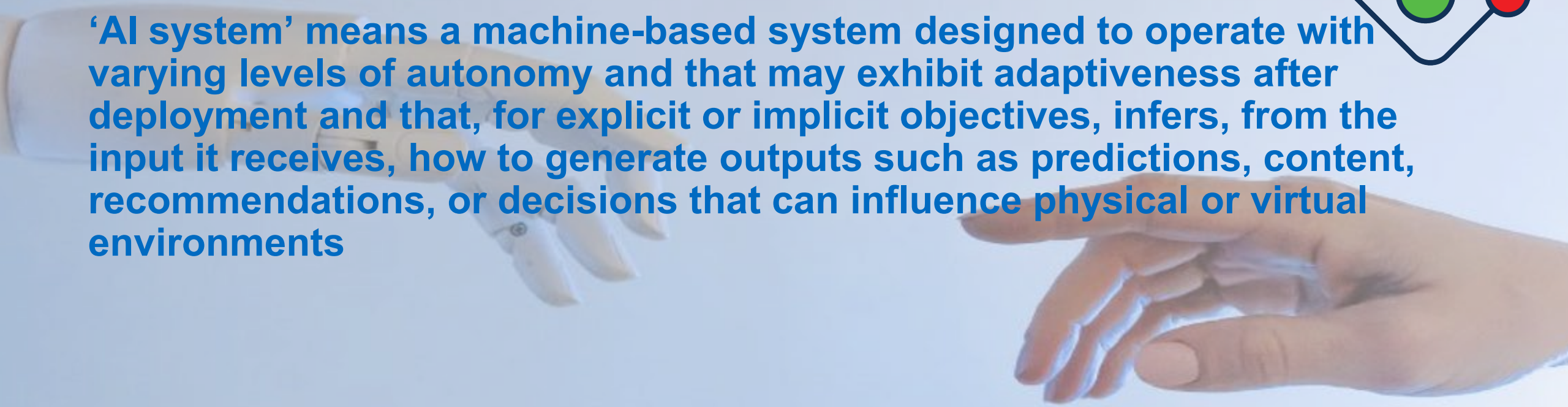
artificial intelligence system means a technological system that, autonomously or partly autonomously, processes data related to human activities through the use of a genetic algorithm, a neural network, machine learning or another technique in order to generate content or make decisions, recommendations or predictions.

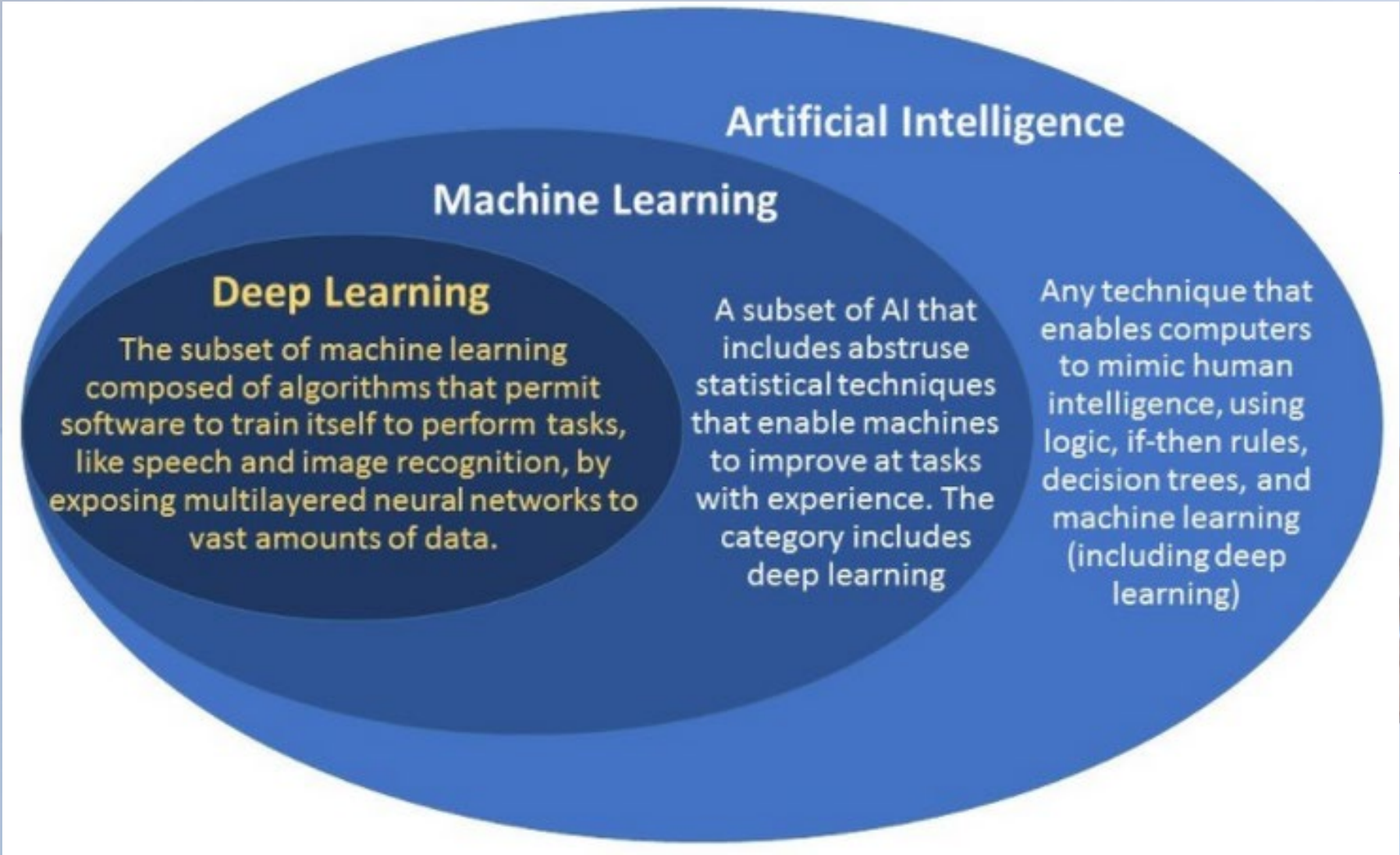
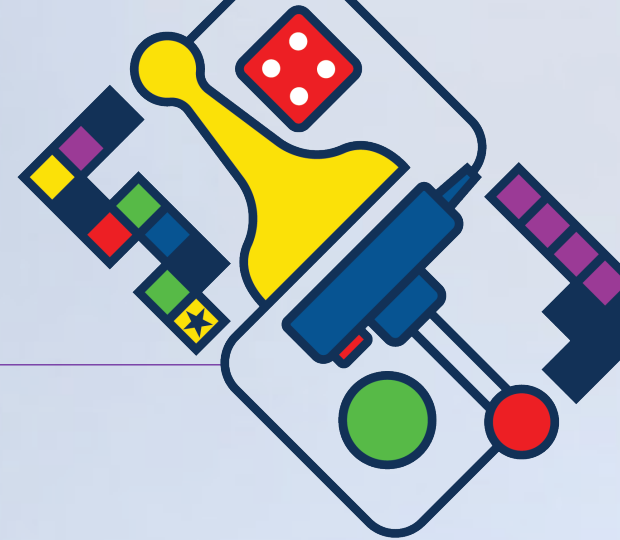


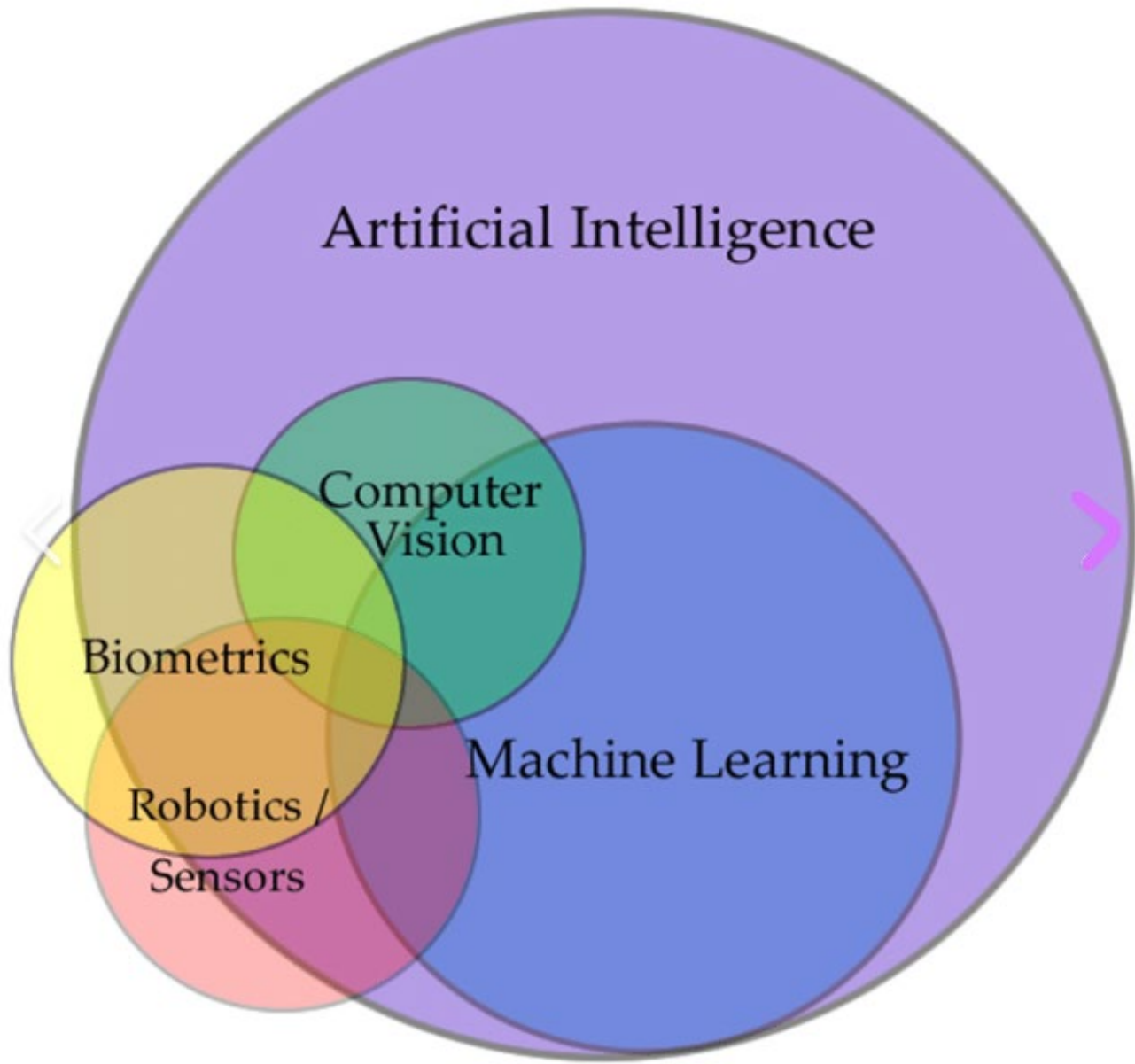
EU – AI Act – 3/18/2024



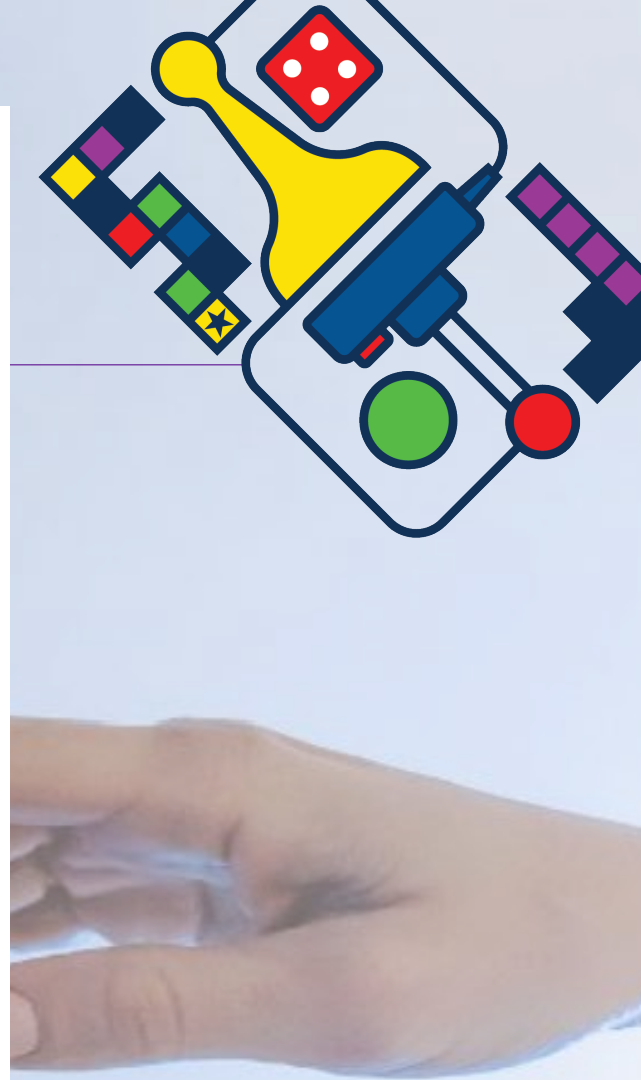
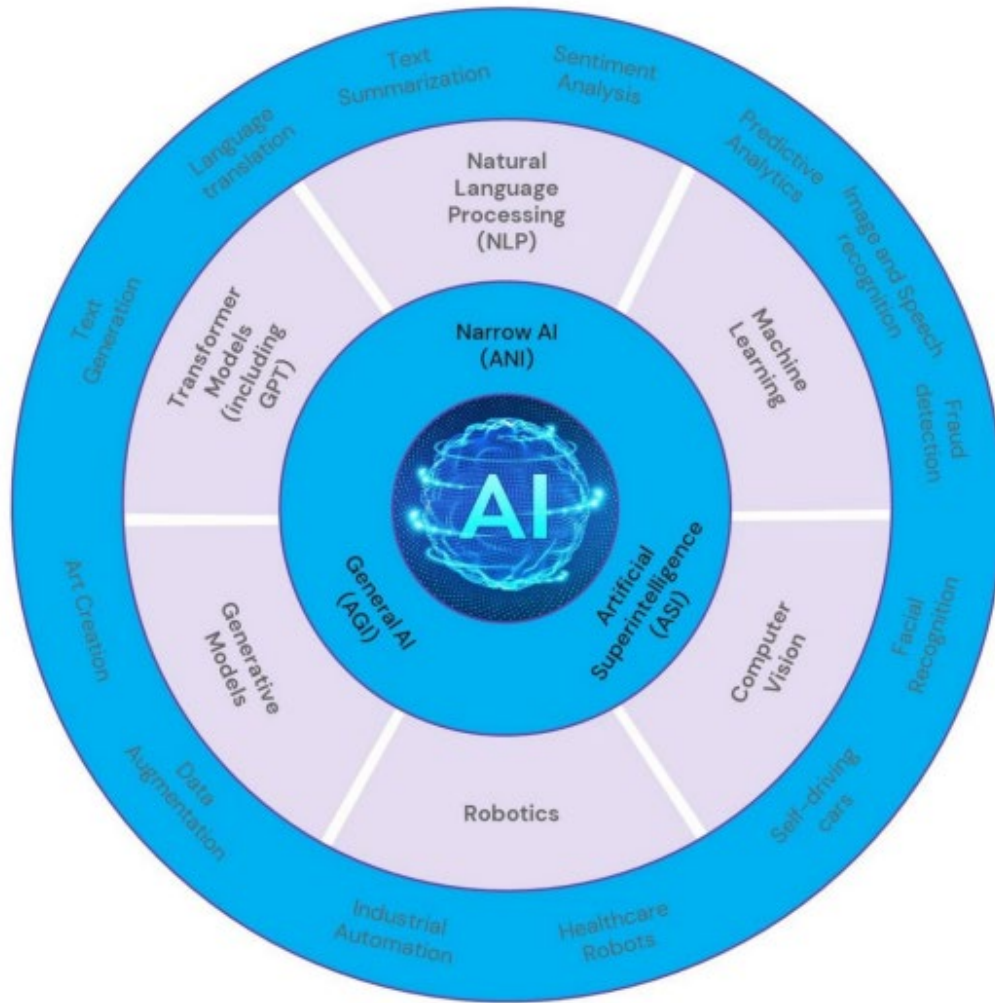
‘AI system’ means a machine-based system designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments

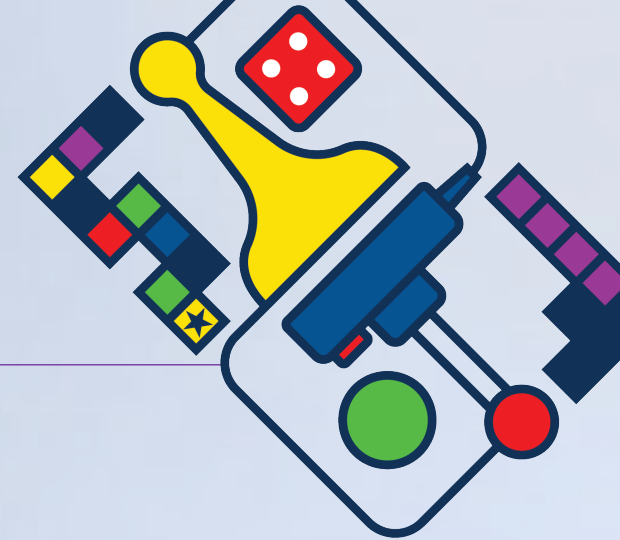
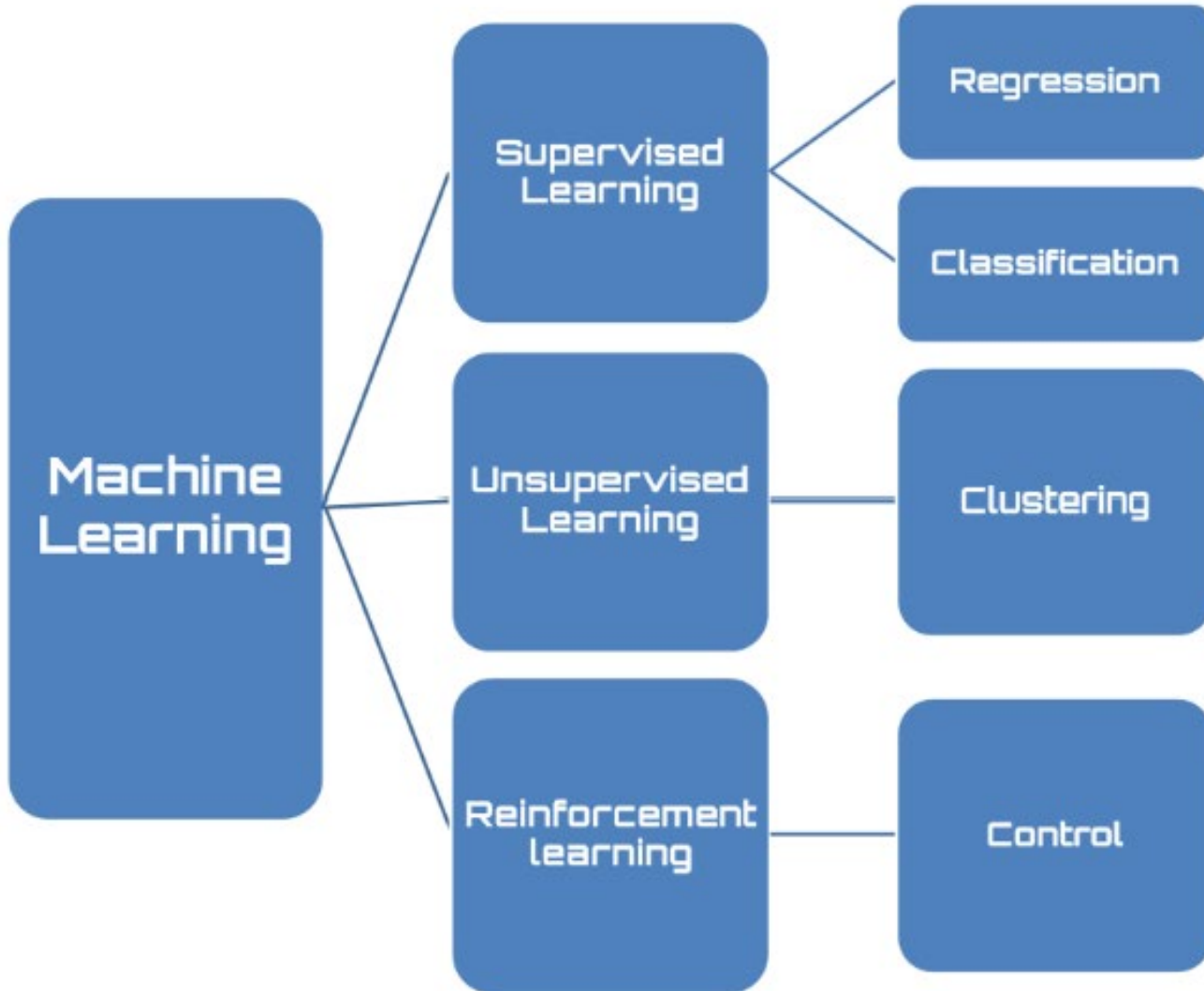






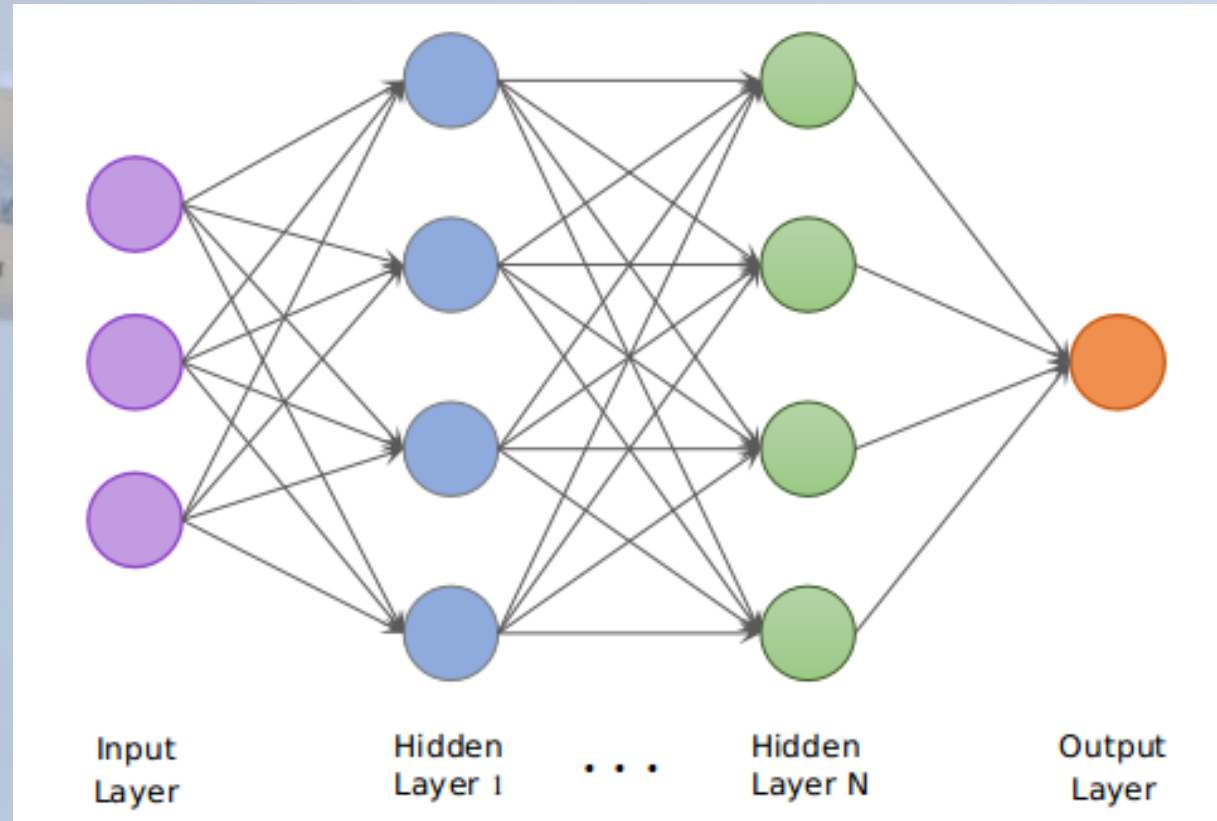
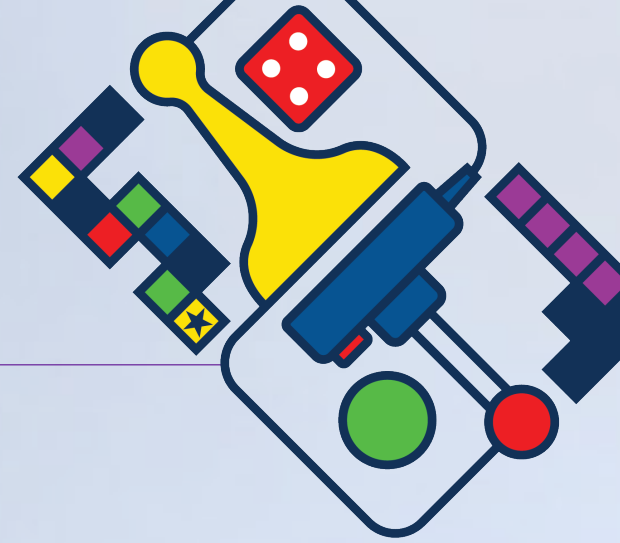
TAXONOMY








How Generative AI Works

Machine learning and neural networks basics



3 Types of Artificial Intelligence

Artificial intelligence falls into three categories

	01 	02 	03 
AI Stages	Artificial Narrow Intelligence (ANI)	Artificial General Intelligence (AGI)	Artificial Super Intelligence (ASI)
	Execute specific focused tasks, without ability to self-expand functionality.	Perform broad tasks, reason, and improve capabilities comparable to humans.	Demonstrate intelligence beyond human capabilities.
Timing	Today	About 2040? 2030s?	Soon After AGI
Implications	Outperform humans in specific repetitive functions, such as driving, medical diagnosis and financial advice.	Compete with humans across all endeavors, such as earning university degrees and convincing humans that it is human.	Outperform humans, helping to achieve societal objectives or threatening human race.
	Jobs Enhanced	Job at Risk	Humanity at Risk

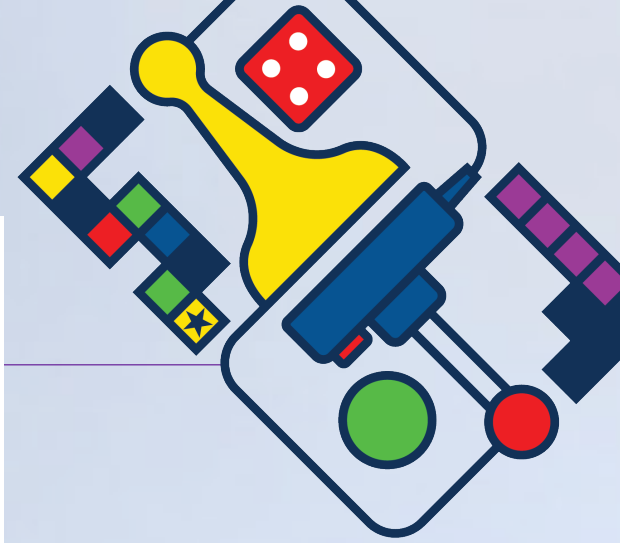
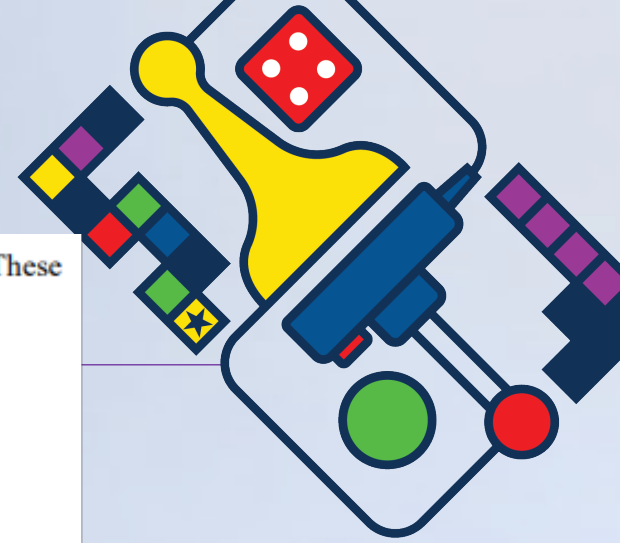
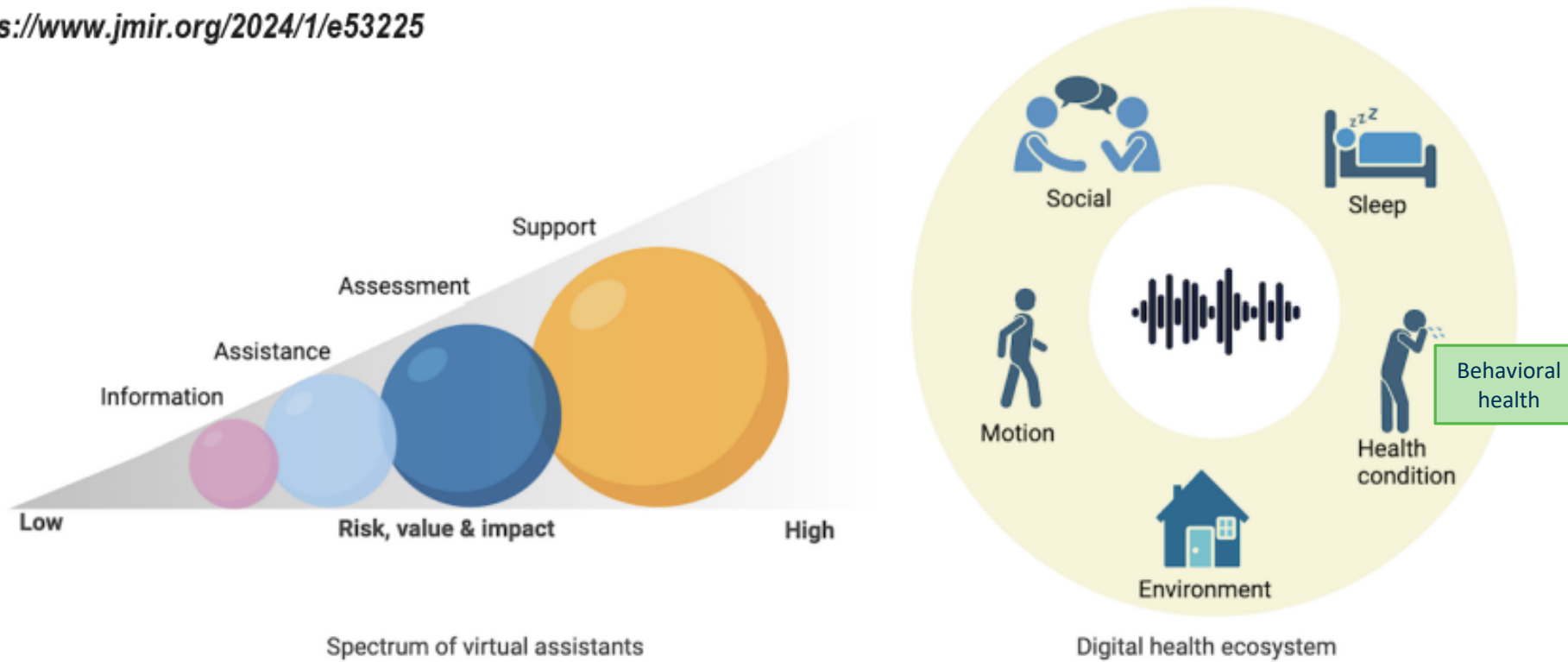
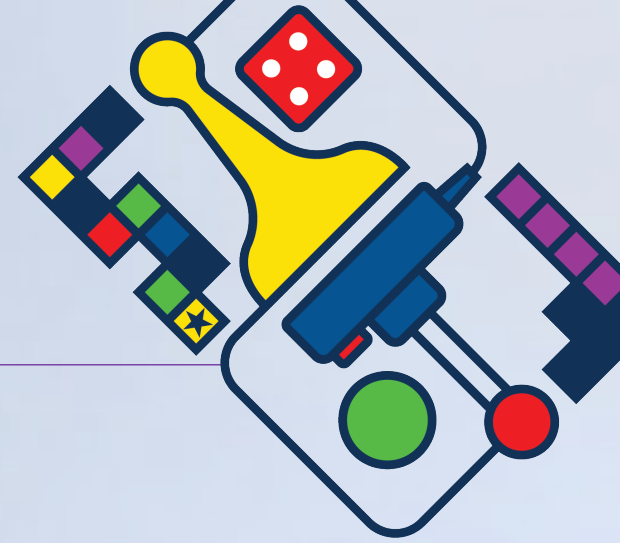


Figure 1. Spectrum of virtual assistants (outlines the risk, value, and impact in health care services) and applications in digital health ecosystems. These can change based on the targeted problems and solutions. This figure was created with BioRender.com (BioRender).

<https://www.jmir.org/2024/1/e53225>



Working with LLMs



Models

- Text
- Text to image
- Image to image
- Image to text
- Speech to text
- Text to audio
- Text to video

Prompt engineering

- ChatGPT
- Claude
- Gemini
- Copilot
- Pi



Prompts Use Cases

Content Creation

Learning and Development

Creativity and Brainstorming

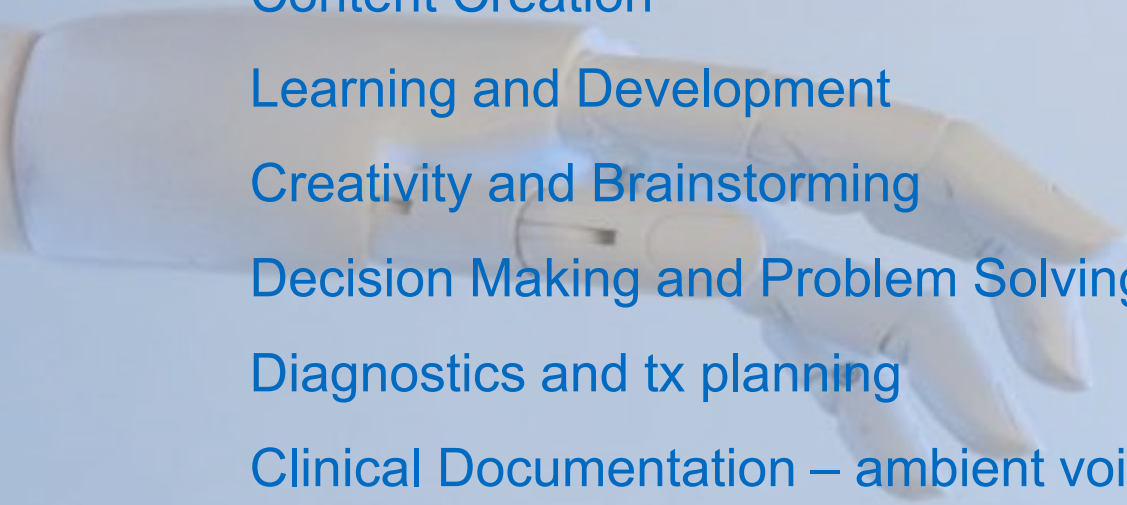
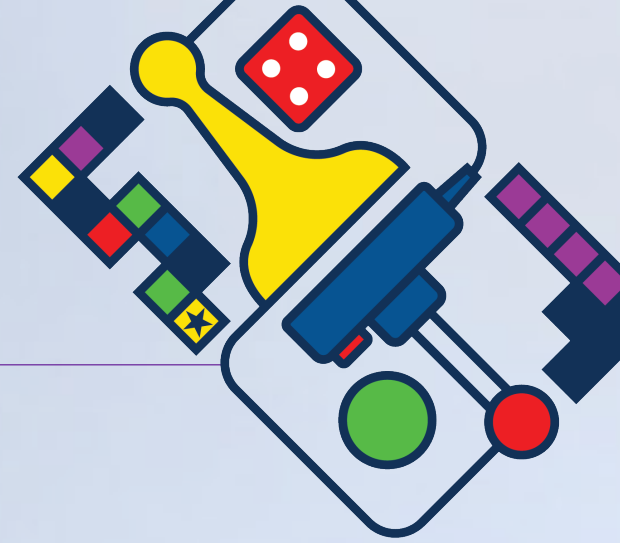
Decision Making and Problem Solving

Diagnostics and tx planning

Clinical Documentation – ambient voice

Research and Summarization

Miscellaneous – your imagination



Prompts (Questions/Requests)

Text, voice, image submitted to AI assistance

Like talking to a computer

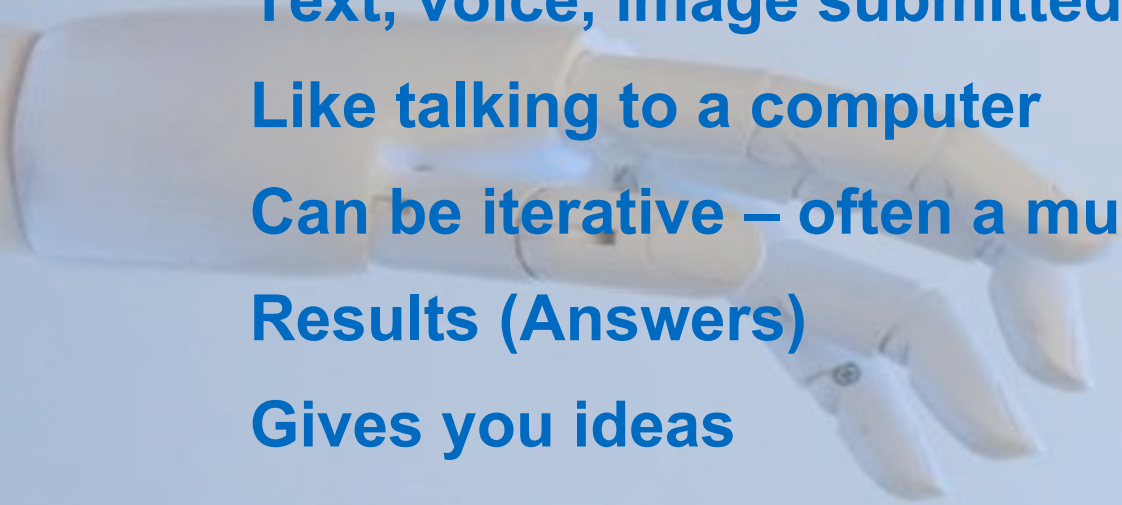
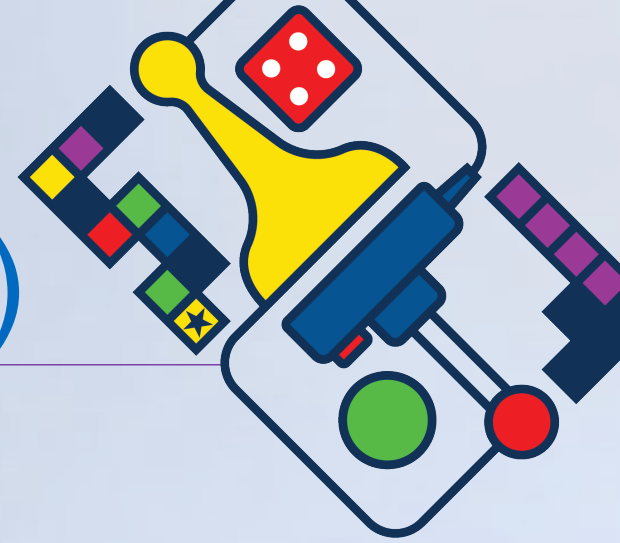
Can be iterative – often a must

Results (Answers)

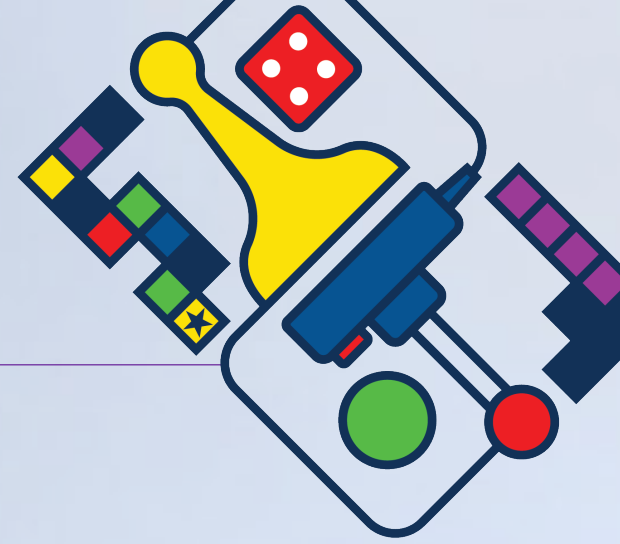
Gives you ideas

Draft a plan

Always review results before using!!



Other Tips



Conversations move forward so you don't need everything in one prompt

It's ok to try a prompt more than once

Ask for help in crafting your prompts

Use roleplaying

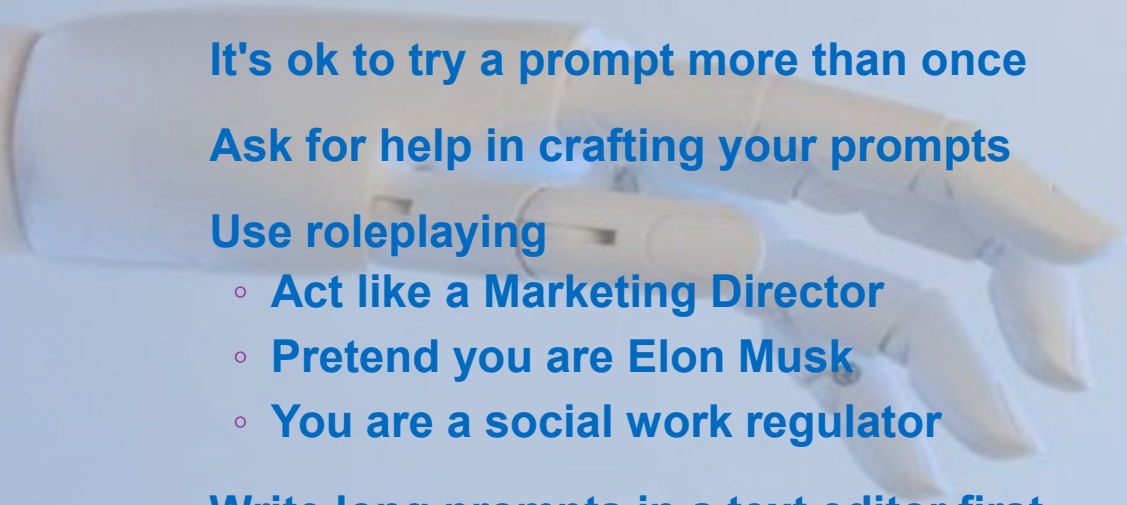
- **Act like a Marketing Director**
- **Pretend you are Elon Musk**
- **You are a social work regulator**

Write long prompts in a text editor first

Push back and disagree

Start over

Be nice!



AI in Service Delivery

Chatbots for support

Virtual reality for therapy

Documentation – ambient voice

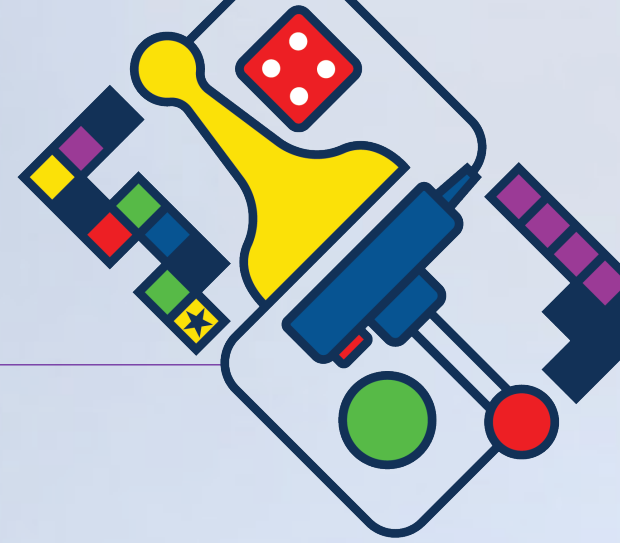
Case file reviews automation

Predictive analytics for risk assessment.

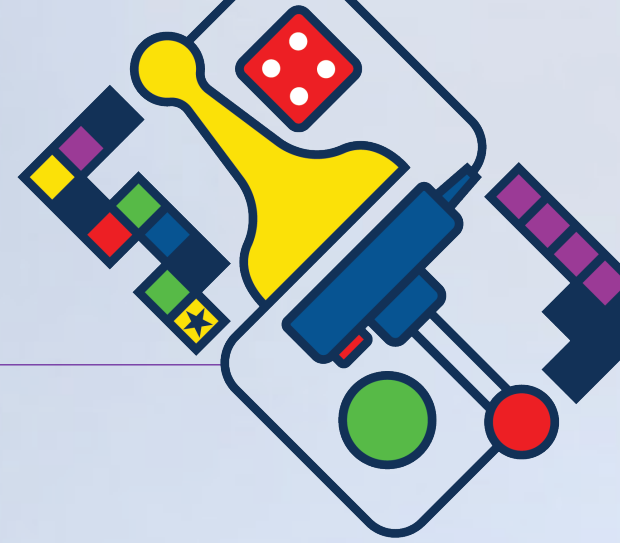
Optimizing resource distribution

Predicting service demand – scheduling

AI agents/companions



AI Ethics and Social Justice



Ethical considerations in AI

AI's social impact

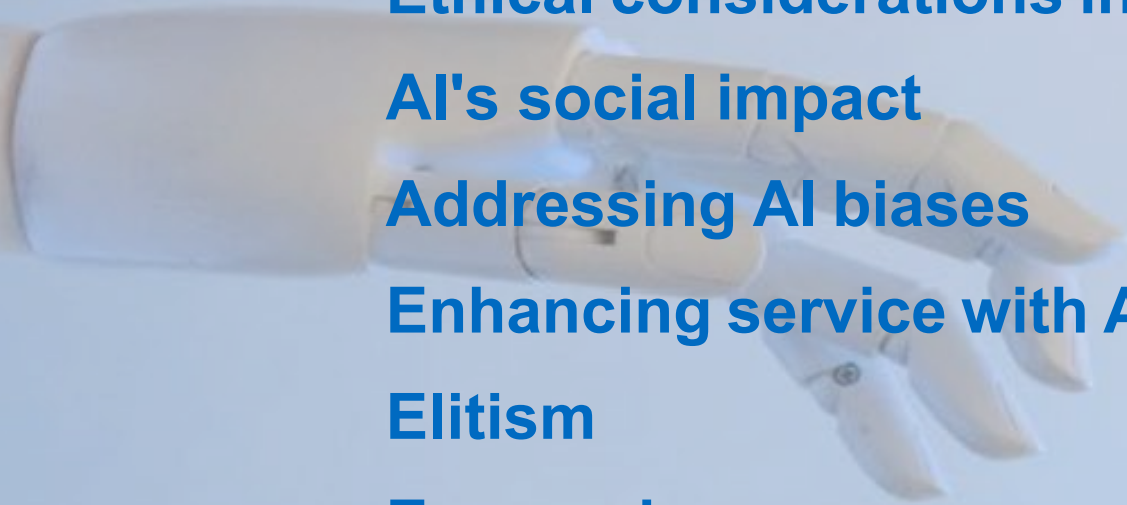
Addressing AI biases

Enhancing service with AI

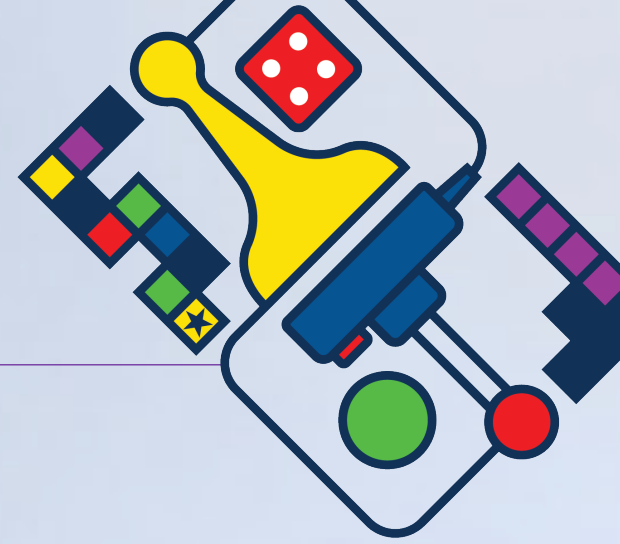
Elitism

Economics

Environment



Key Principles in the US

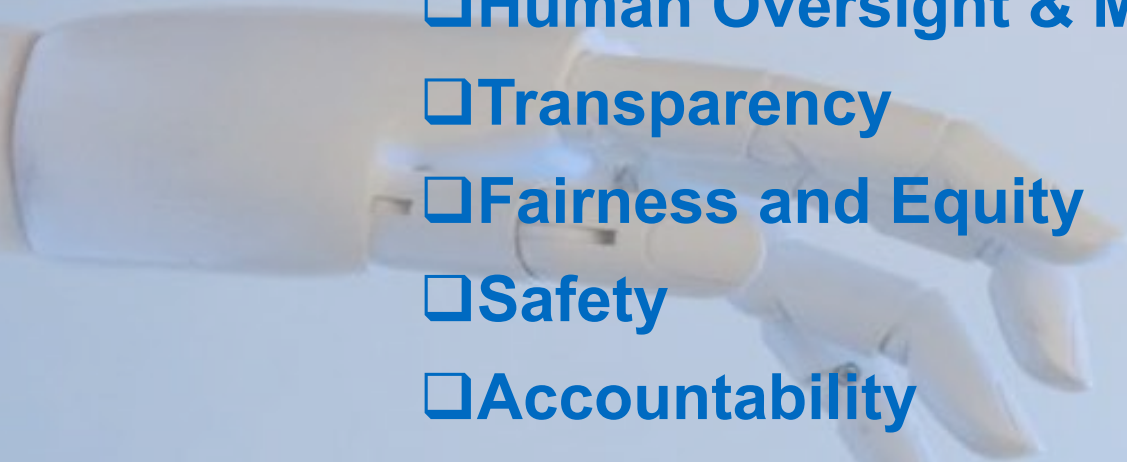
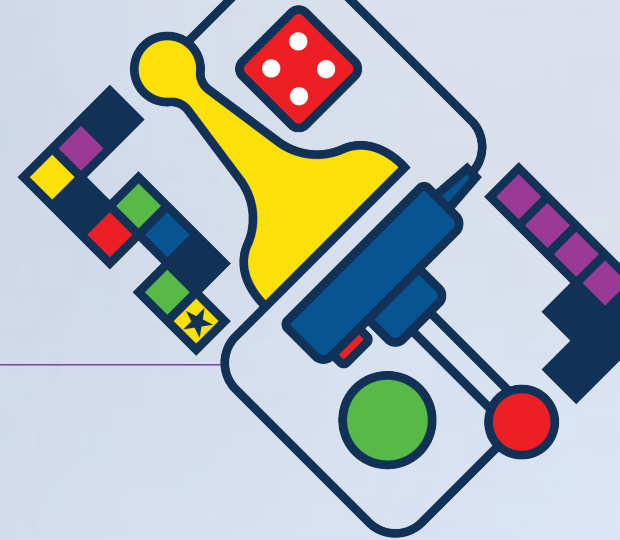


- Safe and Effective Systems
- Algorithmic Discrimination Protections
- Data Privacy
- Notice and Explanation
- Human Alternatives, Consideration, and Fallback
- Voluntary

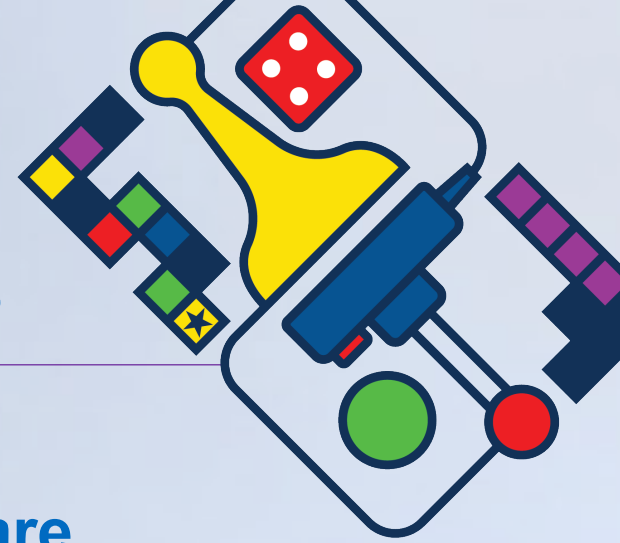


Key Principles in Canada

- Human Oversight & Monitoring
- Transparency
- Fairness and Equity
- Safety
- Accountability
- Validity & Robustness
- Member of Digital Nations



Similarities in Regulatory Approaches



Both countries prioritize ethical AI development

Sector-specific regulations, particularly in healthcare

Efforts towards global cooperation in AI regulation

Focus on accountability and transparency in AI systems

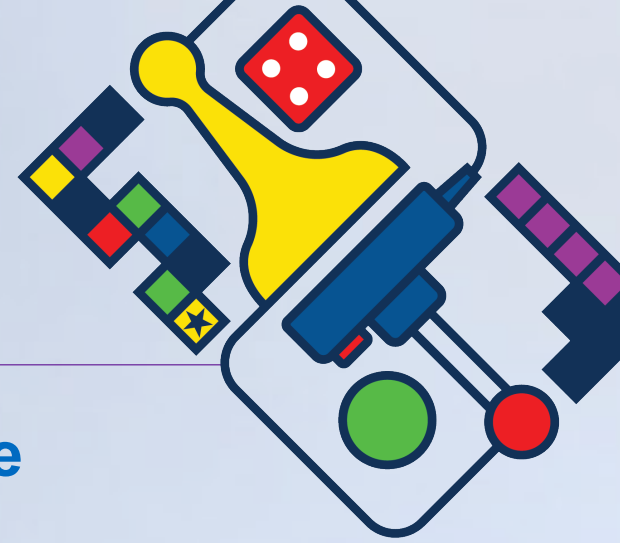


Differences

- ❑ **US: More emphasis on fostering innovation and flexibility in regulation**
- ❑ **Canada: Greater focus on accountability and ethical considerations**
- ❑ **Canada's proactive approach in sector-specific AI applications**
- ❑ **The US's broader, principle-based, voluntary regulatory stance**

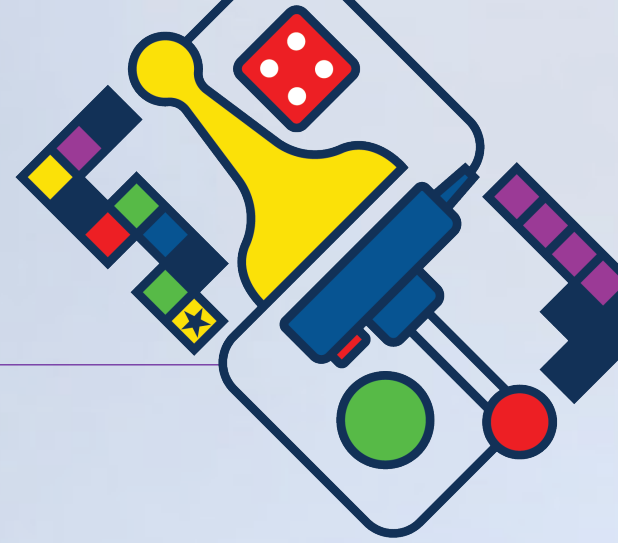


Lessons learned?



- **Regulatory frameworks in both countries aim to balance innovation with ethical considerations.**
- **Key differences stem from the focus on sector-specific regulations and the level of emphasis on accountability.**
- **Continuous evolution of AI laws and regulations is expected.**
- **United Nations statement (193 countries) – safety, trustworthy, data**
- **Need all nations**

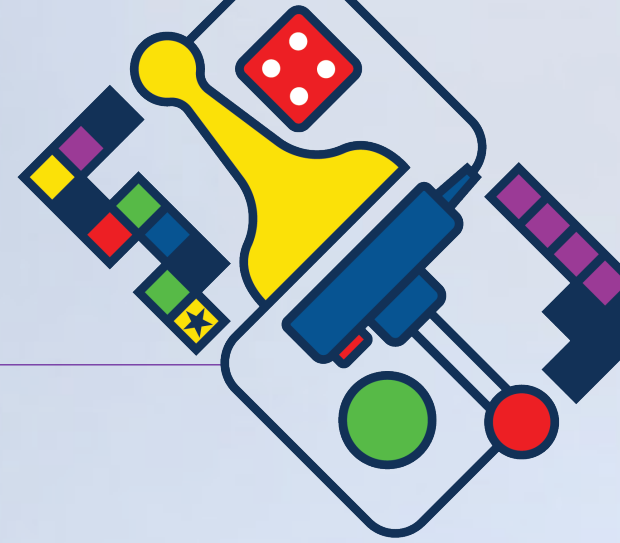
Is AI Conscious?



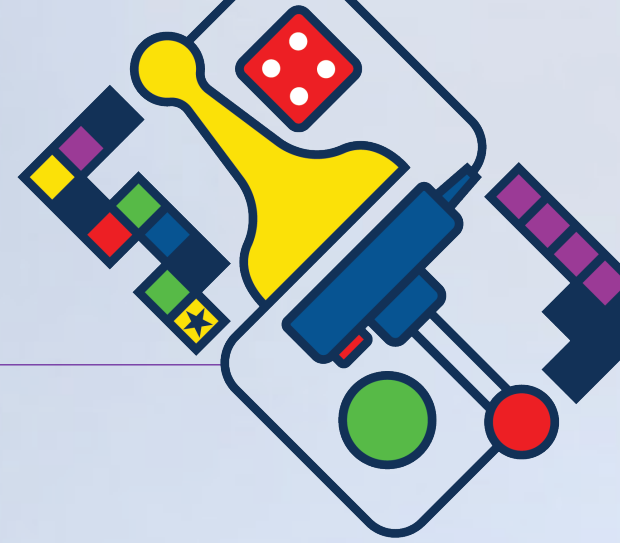
- **Consciousness refers to the quality or state of self-awareness.**
- **AI, as of current technologies, does not possess consciousness similar to humans or animals.**
- **AI's 'decisions' are based on data-driven algorithms, not self-awareness or emotional responses.**
- **Ongoing debates in AI ethics and philosophy discuss potential future developments.**

Is AI Sentient?

- **Sentience involves the capacity to feel, perceive, or experience subjectively.**
- **No AI currently developed has the ability to experience emotions or subjective experiences.**
- **Discussions around AI sentience are speculative and philosophical, focusing on future possibilities rather than current realities.**
- **Ethical considerations around AI sentience are becoming increasingly relevant as AI systems grow more complex.**



Navigating Future Regulation



Emerging trends

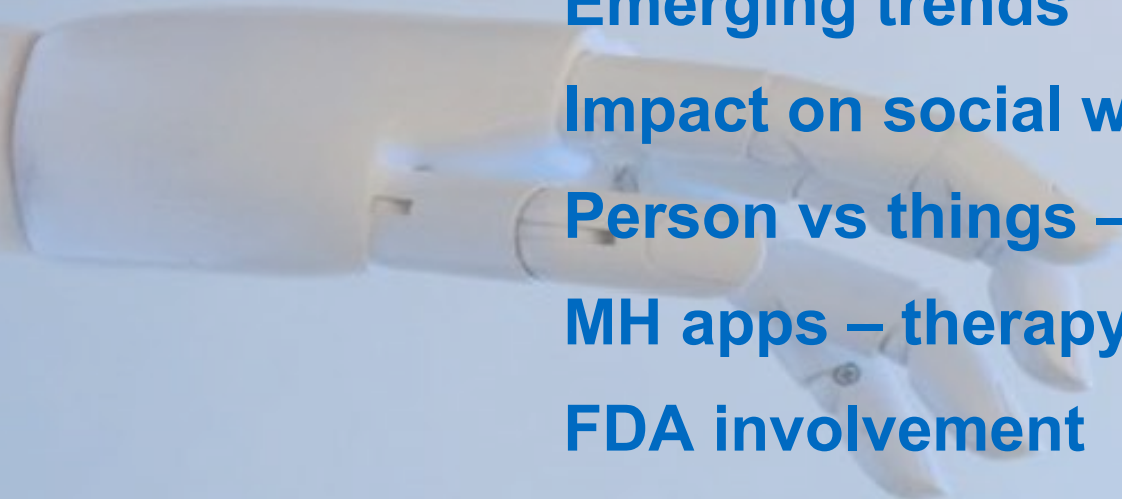
Impact on social work ethics and practice

Person vs things – rights?

MH apps – therapy vs self-help?

FDA involvement

AI companions



Emerging Trends and Strategies for Regulators



Transparency and Explainability: Ensuring AI systems are transparent and their decisions can be explained

Ethical AI Development: Promoting the development of AI with ethical considerations at its core

Public Engagement: Involving the public in discussions on AI impacts and regulation

Cross-sectoral Collaboration: Working across sectors to develop comprehensive AI regulation

Continuous Education: Regulators and practitioners staying informed about AI advancements

Social Justice: Vulnerable populations; diversity; job displacements; environment; monopolies; elitism, etc.

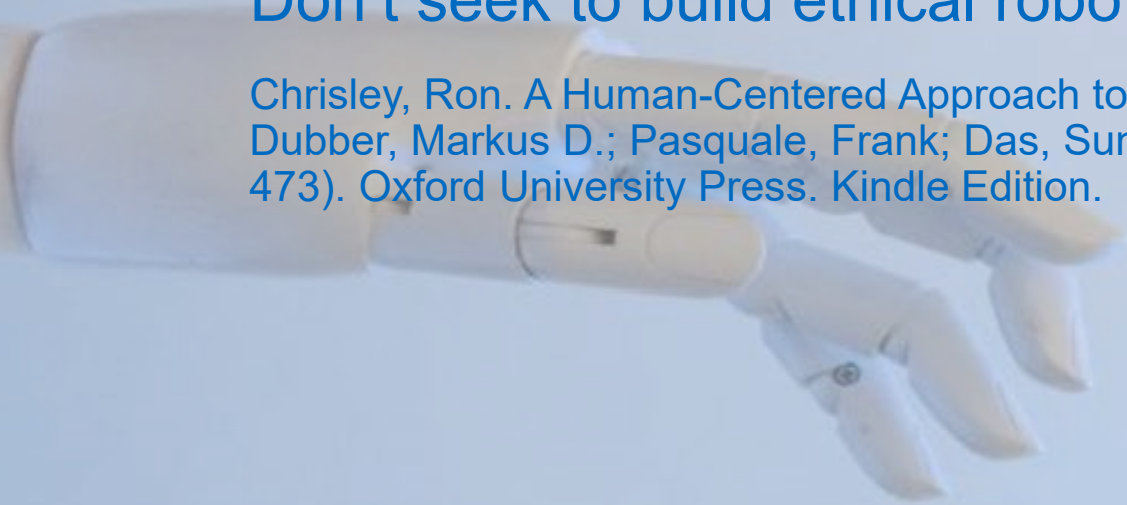
Global Standards: Contributing to and adopting international standards for AI regulation

The importance of proactive, informed, and collaborative approaches to regulating AI, ensuring it benefits society while mitigating potential risks

A Human-Centered Approach to AI Ethics

Don't seek to build ethical robots; seek to build robots ethically.

Chrisley, Ron. A Human-Centered Approach to AI Ethics A Perspective from Cognitive Science. As found in Dubber, Markus D.; Pasquale, Frank; Das, Sunit. The Oxford Handbook of Ethics of AI (Oxford Handbooks) (p. 473). Oxford University Press. Kindle Edition.



Conclusion

- **Recap – let's not make the same mistakes**
- **The role of regulators - informed regulation**
- **The game has changed**
- **Because it's not a game at all**

