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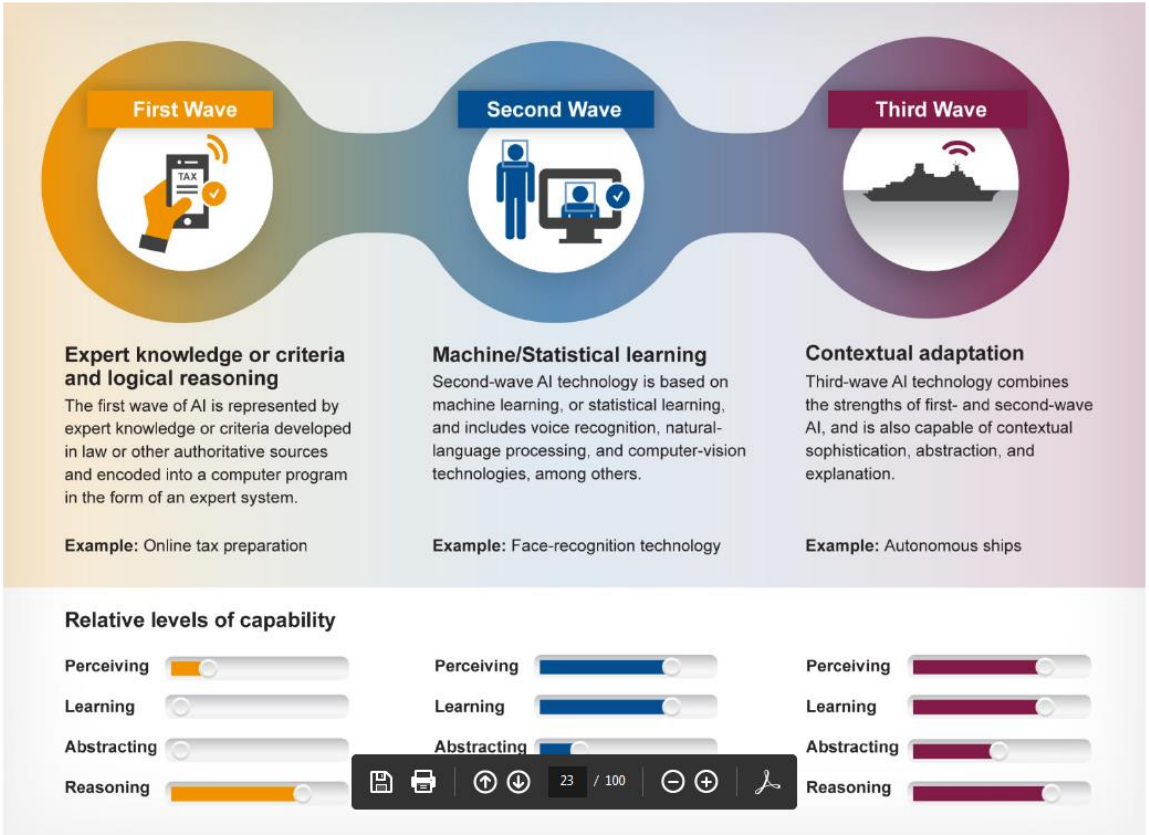
Ethical Considerations when using Artificial Intelligence

What is Artificial Intelligence good at?

Figure 1: The Three Waves of AI.



SOURCE: United States Government Accountability Office (GAO): Technology Assessment: Artificial Intelligence Emerging Opportunities, Challenges, and Implications. March 2018.

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Keeping pace with change

"AI is the new electricity. I can hardly imagine an industry that is not going to be transformed by AI."

- Andrew Ng

Moore's Law

In 1965 Intel Co-Founder, Gordon Moore, observed that the number of transistors in a dense integrated circuit ***doubles every two years***.

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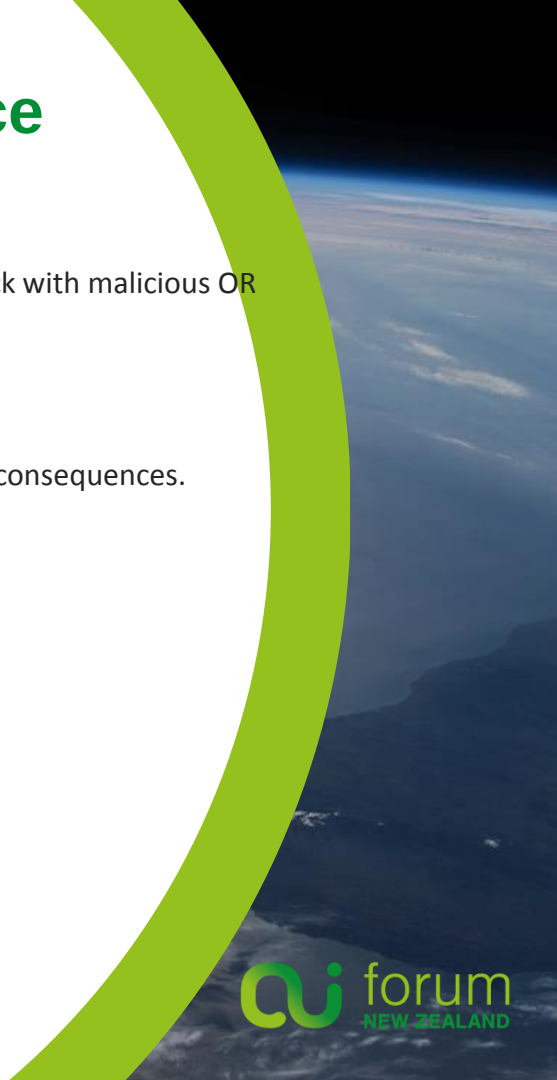
Artificial Intelligence's 'usefulness'

- Narrow Functions (or weak) AI
- Learning, recognising patterns
- Creating Efficiency and Standardisation
- Enhancing Personalisation
- Cumulative, prolific, transformation

Artificial Intelligence as a means, not an end. Context of usage and application is important.

Ethical Questions of Artificial Intelligence

- Unemployment
  What happens to human's jobs?
- Inequality
  How is wealth, created by machines, distributed?
- Humanity
  How do machines affect our behaviour and interactions?
- Artificial stupidity
  Will there be equal opportunity for humans to learn?
- Racist Robots
  How do we eliminate AI bias?
- Security
  Use of AI to protect, or to attack with malicious OR negligent intent.
- The Unknown
  Protecting against unintended consequences.
- The singularity
  How do we stay in control?
- Rights
  How do we treat AI humanely?



SOURCE: World Economic Forum (WEF) WEF - Top 9 Ethical Issues in Artificial Intelligence Published: October 2016

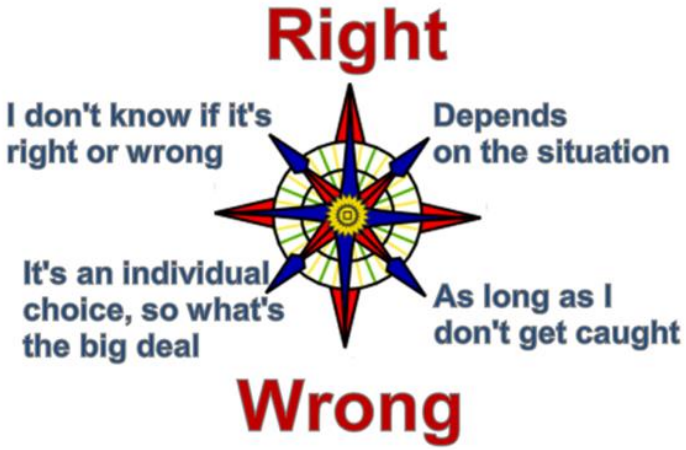
Creating Norms, at pace and scale

Determining what is ethical unethical or somewhere in between is essential.

Right and wrong can mean different things to different groups at different times.

Agreed conceptions of fairness, transparency and accountability can differ across these communities and groups:

- Industries
- Nationalities
- Disciplines
- Civil Society
- Academia
- Ethnic / Cultural
- Generations
- More.



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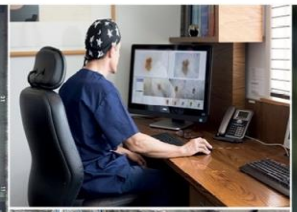
TECH ALLIANCE

ARTIFICIAL INTELLIGENCE

Shaping a Future New Zealand



International Partners

PARTNERSHIP ON AI

2

Fair, Transparent, and Accountable AI

AI has the potential to provide societal value by recognizing patterns and drawing inferences from large amounts of data. Data can be harnessed to develop useful diagnostic systems and recommendation engines, and to support people in making breakthroughs in such areas as biomedicine, public health, safety, criminal justice, education, and sustainability.

While such results promise to provide real benefits, we need to be sensitive to the possibility that there are hidden assumptions and biases in data, and therefore in the systems built from that data – in addition to a wide range of other system choices which can be impacted by biases, assumptions, and limits. This can lead to actions and recommendations that replicate those biases, and have serious blind spots.

Researchers, officials, and the public should be sensitive to these possibilities and we should seek to develop methods that detect and correct those errors and biases, not replicate them. We also need to work to develop systems that can explain the rationale for inferences.

We will pursue opportunities to develop best practices around the development and fielding of fair, explainable, and accountable AI systems.

70 Working Group Members

Multi-Stakeholder

Multiple Projects

- Fair, Transparent, Accountable Papers
- Case Studies
- Consultation
- Grand Challenges

Thank you!

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