

Impact of Bill C-27 on Big Data and Analytics, Enhancing Data Privacy, and Promoting Responsible AI Use

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Disclaimer



I am not a lawyer.

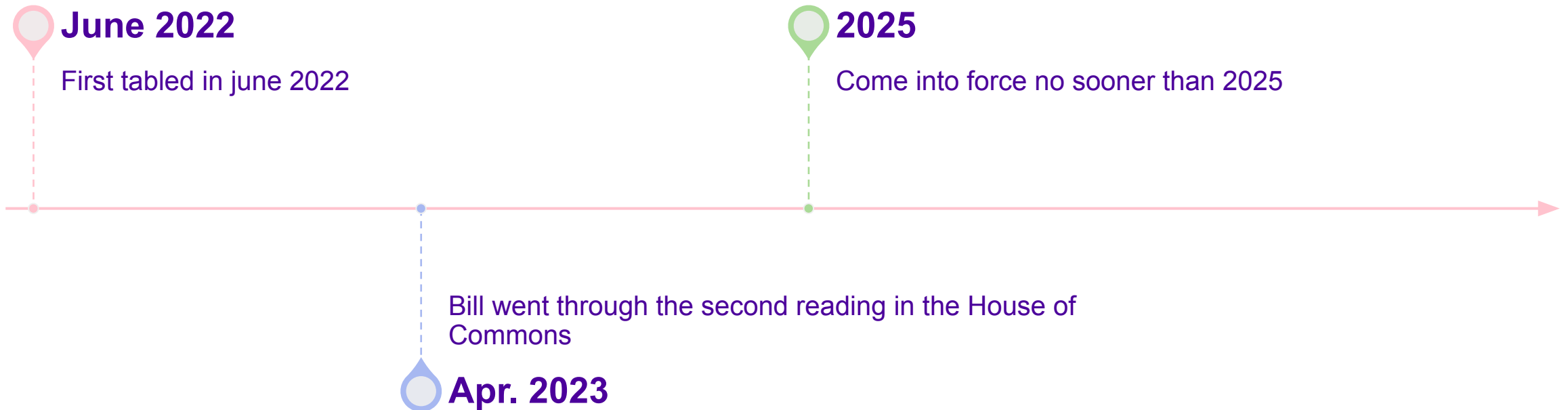


**I am a data
scientist**

Background in math
PhD on algorithmic fairness

Bill C-27

The Artificial Intelligence and Data Act (AIDA)



Content of Bill C-27

- Part 1: *The Consumer Privacy Protection Act*
- Part 2: *Personal Information and Data Protection Tribunal Act*
- Part 3: *Artificial Intelligence and Data Act*
 - [...] **establish common requirements for the design, development, and use of artificial intelligence systems,**
 - including measures to **mitigate risks of harm and biased output.**
 - [...] prohibit specific practices with data and artificial intelligence systems that may result in serious harm to individuals or their interests.

What is considered as an AI?

*[..] 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**.* *

Analytics = AI ?

Impact based approach

Obligations apply to high impact system.

high-impact system means an artificial intelligence system that meets the criteria for a high-impact system that are established in regulations.*



*Definition from Bill C-27

Key factors in determining high impact systems^{*}

- ✓ Evidence of risks of harm to health and safety, [...] human rights, based on both the intended purpose and **potential unintended consequences**;
- ✓ The severity of potential harms;
- ✓ The scale of use;
- ✓ The extent to which [...] it is not reasonably possible to opt-out from that system;
- ✓ Imbalances of economic or social circumstances, or age of impacted persons;
- ✓ The degree to which the risks are adequately regulated under another law.

^{*} From The Artificial Intelligence and Data Act (AIDA) – Companion document

Some examples of high impact systems

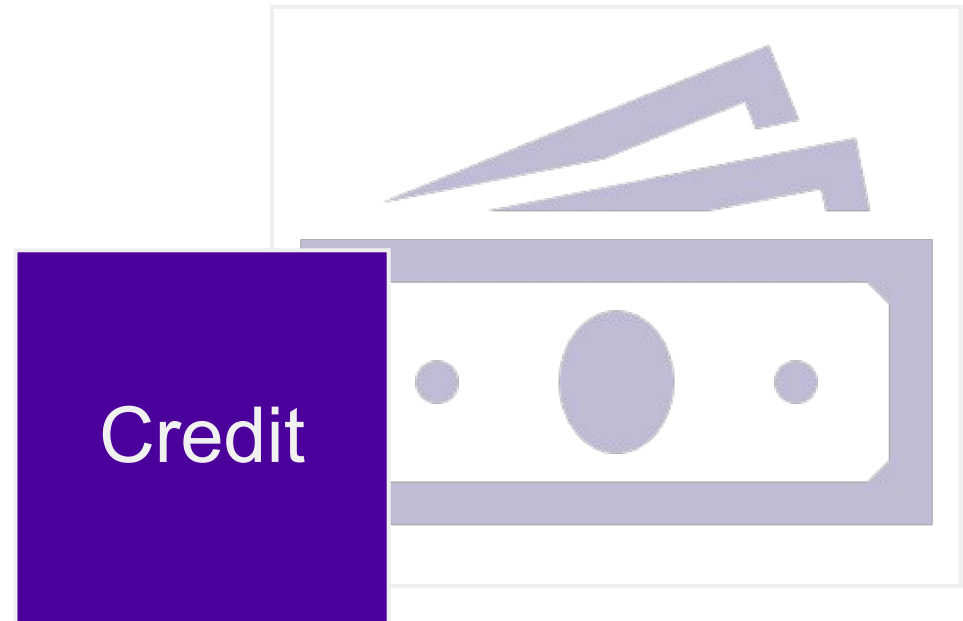
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Source: The Artificial Intelligence and Data Act
(AIDA) – Companion document

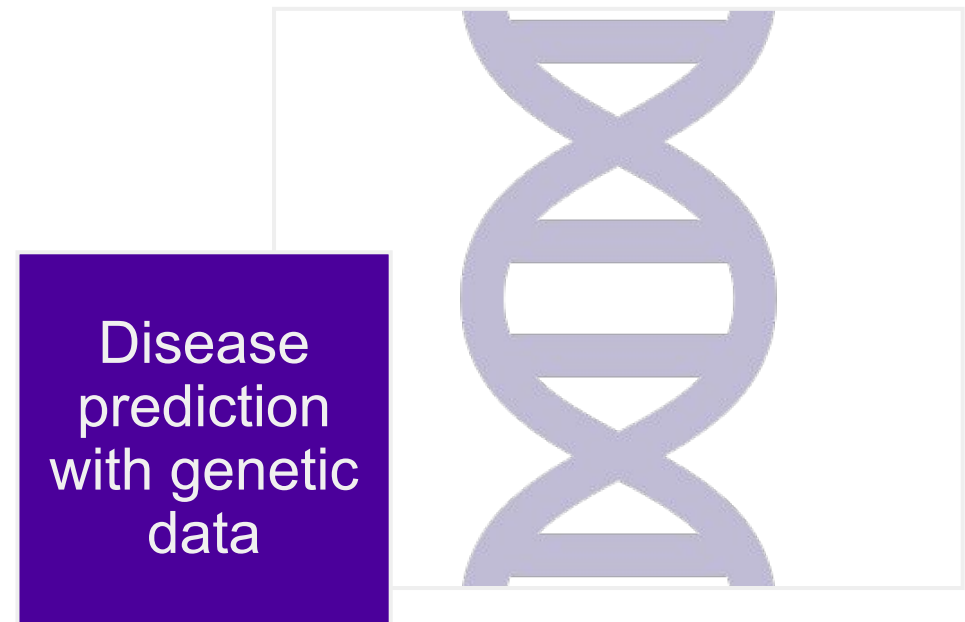
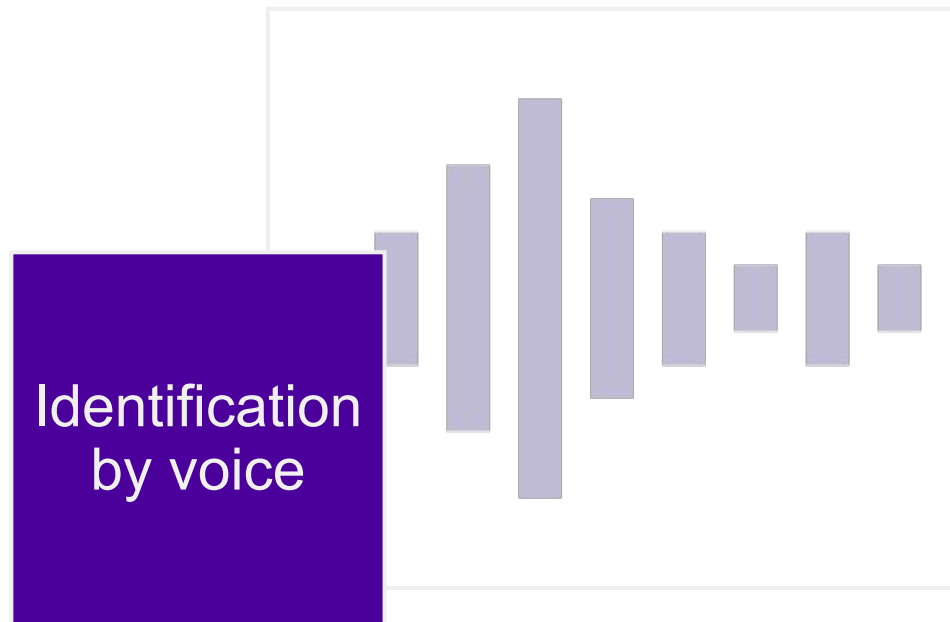
<https://ised-isde.canada.ca/site/innovation-better-canada/en/artificial-intelligence-and-data-act-aida-companion-document#s9>

Screening systems impacting access to services or employment*



* From The Artificial Intelligence and Data Act (AIDA) – Companion document

Biometric systems used for identification and inference*



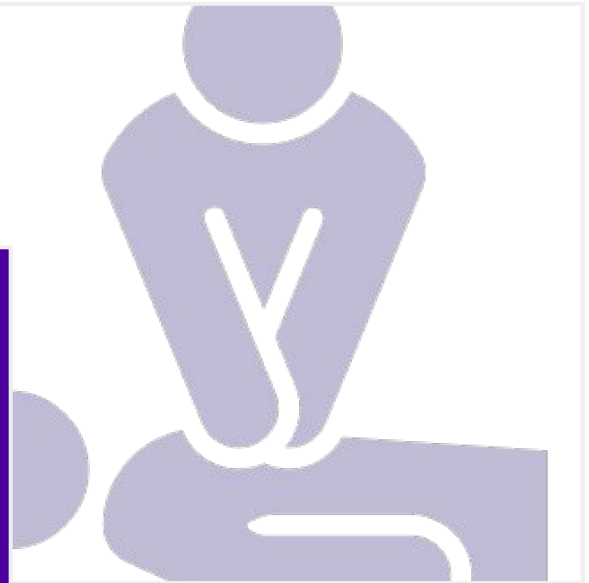
* From The Artificial Intelligence and Data Act (AIDA) – Companion

Systems critical to health and safety^{*}

Autonomous
driving
systems

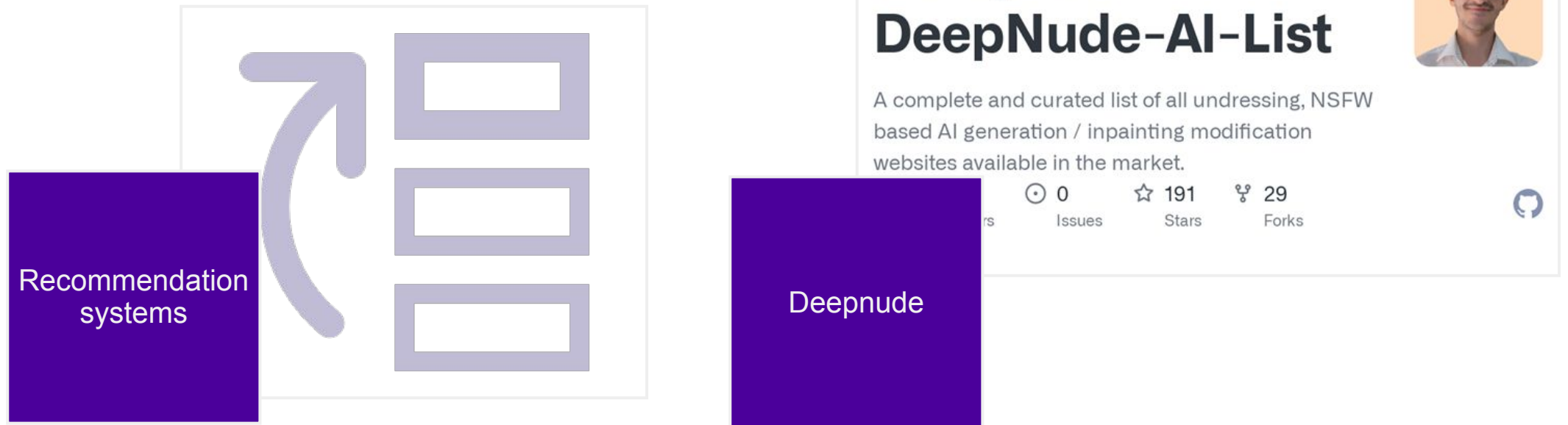


Triage
decisions in
the health
sector



^{*} From The Artificial Intelligence and Data Act (AIDA) – Companion

Systems that can influence human behaviour at scale*



* From The Artificial Intelligence and Data Act (AIDA) – Companion

What is going to change for high impact AI system?

Were going to have to think a little bit more before and after deploying an AI.





Safety, robustness and biased output

7. [...] assess whether it is a high-impact system*
8. [...] establish measures to identify, assess and mitigate the risks of harm or biased output [...] *
9. [...] monitor compliance with the mitigation measures [...] and the effectiveness of those mitigation measures*

Some questions we will have to answer:

- What happens if ...
 - the system crashes?
 - the system makes a mistake?
 - the system is not used the way it was supposed to be used?

*From Bill C-27

What is a biased output?

*[...] content that is generated, or a decision, recommendation or prediction that is made, by an artificial intelligence system and that **adversely differentiates, directly or indirectly and without justification**, in relation to an individual on one or more of the **prohibited grounds of discrimination set out in section 3 of the Canadian Human Rights Act** [...]**

*Definition from Bill C-27



Transparency

10. [...] keep records describing in general terms []

- **(a)** *the measures they establish*
- **(b)** *the reasons supporting their assessment^{*}*



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More transparency

Publication of description — making system available for use

*11 (1) [...] **publish on a publicly available website** a plain-language description of the system that includes an explanation of*

- (a) how the system is intended to be used;*
- (b) the types of content that it is intended to generate and the decisions, recommendations or predictions that it is intended to make;*
- (c) the mitigation measures established under section 8 in respect of it; and*
- (d) any other information that may be prescribed by regulation.**

More transparency

Publication of description — managing operation of system

*(2) [...] **publish on a publicly available website** a plain-language description of the system that includes an explanation of*

- (a) how the system is used;*
- (b) the types of content that it generates and the decisions, recommendations or predictions that it makes;*
- (c) the mitigation measures established under section 8 in respect of it; and*
- (d) any other information that may be prescribed by regulation.**

**From Bill C-27*

Conclusion

1. AIDA is coming, we must be prepared
2. AIDA means ...
 1. a little more work for data scientists and
 2. little more thinking for decision-makers
 3. Much more **security, fairness and transparency** for all citizens



Want to talk more
about responsible AI?

Please mention that you met
me at



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