

AI FOR LAWYERS: A SYMPOSIUM EVENT WITH ELEMENT AI

Presentation Summary

On Wednesday May 15, 2019 the Law Commission of Ontario (LCO) hosted a half-day symposium on [*AI for Lawyers: A Primer on Artificial Intelligence in Ontario's Legal System*](#). The event was held in-person at [Osgoode Hall Law School](#) and broadcast via webinar. All symposium materials and presentations are available on the symposium archive website.

This document summarizes the presentation of Richard Zuroff on behalf of Element AI.

Richard Zuroff, Element AI A Primer on AI

Richard opened the symposium event with a primer on Artificial Intelligence (AI).

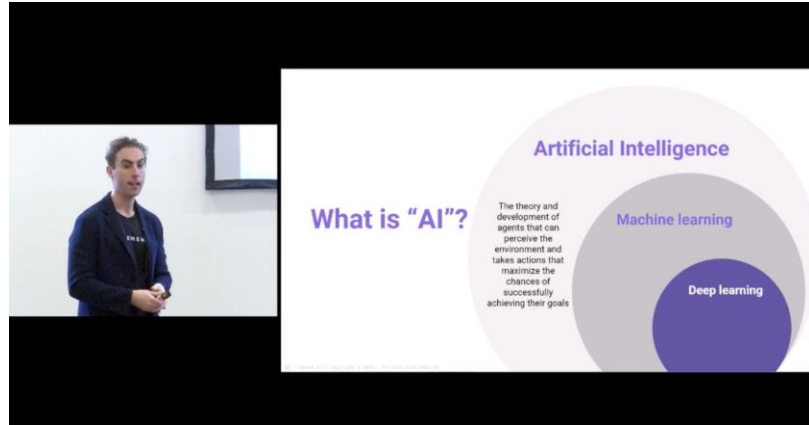
He began by discussing how public ambivalence to AI is demonstrated in Tesla's self-driving vehicle technology. On the one hand, Tesla's autonomous driving systems appear super-intelligent in their ability to detect and avoid high-speed collisions. On the other hand, these same systems are prone to make mistakes with rather more mundane tasks, such as driving over a boulder while trying to park. This public ambivalence extends to other areas as well. AI somehow appears set to replace many jobs traditionally held by humans, but at the same time, could also lead to mass failure if the deployment was less than perfect. So while AI may not yet be good at all things, it is a technology with commercial value and a wide array of specific use cases.

What is AI?

Richard defined artificial intelligence as “agents or systems that can perceive the environment and take actions to optimize success in achieving a goal.” AI is a broad term to define systems that use perceived information to achieve a goal and create a feedback loop to optimize achieving a goal. AI is not simply an input-to-output automation system that operates upon a pre-determined formula. AI instead uses its environmental perception to optimize a model that it constantly updates through its data-driven decision making and learning. In his definition, AI systems aim to compliment human cognition and activities rather than replace them.

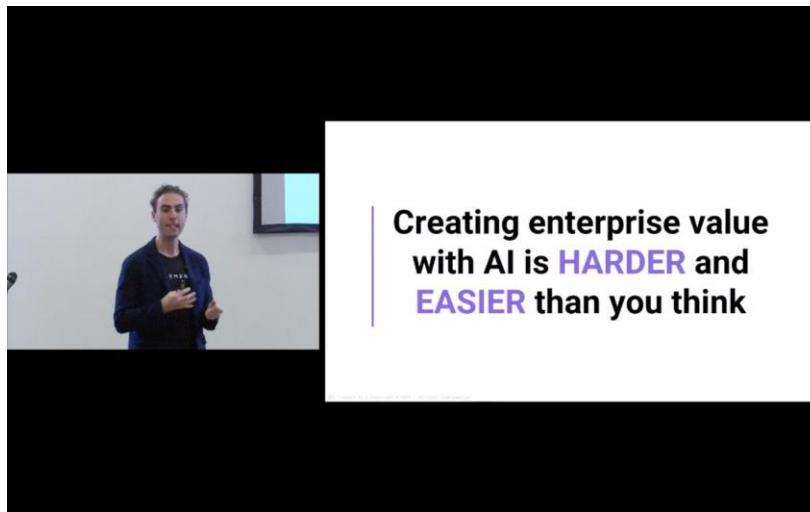
Key to the process of developing AI is the use of “machine-learning” and “deep-learning” techniques. These are AI systems that process information to find patterns in the data that can be used to generate data-driven decision-making loops. Unlike human learning – which is generally limited to acting on a decision and then evaluating information flowing from that decision – AI systems are able to pre-emptively analyze vast amounts of training data to identify options that are both known and possibly overlooked by humans.

The feedback loop of learning from new data generated from previous decisions can also be much faster. AI systems are also able to congregate large amounts of data, using one AI system to capture the equivalent of many people sharing their data and knowledge with each other. Designing AI to complement human tasks can cut the noise from the data, making cognitive processes more efficient and potentially innovative.



AI is therefore not merely computer code and statistics, but a goal-oriented system of perception that can enhance our own data perceptions and experience-based learning.

The commercial value of AI



One common misconception of AI is that it's not a fully mature technology ready for deployment. The economic case appears to tell a different story. Some 80% of organizations who have implemented AI report significant value in having done so. AI is expected to become ubiquitous throughout corporate enterprises over the next 5-10 years. The technology may be particularly profitable for smaller-sized and larger-sized

companies.

In practical terms, the true commercial value of AI will only be unlocked through an array of supportive measures. These will include staff training, workplace modernization, and a clear regulatory environment.

“Black boxes?” What regulation could mean for AI



In this brave new world of AI, it is easy to fear this new technology and its potential ramifications. This is particularly true at a time where it seems that the technology is advancing far more quickly than the law. In his Primer on AI presentation, Richard broke down the myth that all AI models are “black boxes” where its internal decision-making process is obscured from those who may be impacted by it. Richard clarified

that not all AI decision-making is incomprehensible. Transparency is both necessary and achievable. However, transparency exists on a continuum. As Richard explained, full transparency may not always be the best explanation for an AI nor is it always warranted. Regulations would need to account for the context of use in the level of explanation required. One avenue of governance, Richard expounded, may be through the design of the AI system.

Similarly, a very realistic concern with AI is for bias in the system. Although AI may be an impersonal program, the data it operates on is not always impartial. AI decision making processes are often a feedback loop; if the data fed into the system is biased, the feedback loop would end up augmenting that bias. To address these issues, Richard advised that key considerations must be made during the design stage, and stakeholders must define the values they want achieved. For example, whether to optimize an AI for profit or fairness. It is also at the design stage where regulations may be most effective in reducing/eliminating bias.

What can we take away?

- AI is a broad term to define systems that use perceived information to achieve a goal and create a feedback loop to optimize achieving a goal. AI is not simply an input-to-output automation system that operates upon a pre-determined formula. AI instead uses its environmental perception to optimize a model that it constantly updates through its data-driven decision making and learning.
- AI is not at its best where it replaces humans but rather in augmenting human tasks to aid decision-making processes.
- While some deep-learning AIs are still in development, many AI systems are viable and deployed within organizations, with widespread deployment expected in the next few years.
- There is a need for regulation of AI. Bias in the system and training discriminatory AI is a real concern. Significant considerations of AI design and decision-making algorithms should be made before the algorithm-building stage so that we can build the AI with these human values in mind.