ARTIFICIAL INTELLIGENCE AND THE FUTURE OF LAW

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What is AI?

Artificial intelligence is that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment. (Nilsson 2010)
What is law?

Law is a classification institution for achieving social order by coordinating behaviour to follow **appropriate** patterns, enabling human groups to reap the benefits of cooperation and social life.
Legislation is a mechanism for translating collective choices into authoritative classifications for purposes of social and formal penalties.
What is legislation?

Authoritative, unique
Transparent, public
Neutral, impersonal
Stable
Clear
What is the rule of law?

Authoritative, unique
Transparent, public
Neutral, impersonal
Stable
Clear
HOW WILL WE ACHIEVE THE RULE OF LAW IN THE AGE OF AI?
Amazon said the suspension of law enforcement use of its Rekognition software was to give US lawmakers the opportunity to enact legislation to regulate how the technology is employed. BBC News
CORE CHALLENGES OF REGULATING AI: MACHINE LEARNING
CORE CHALLENGES OF REGULATING AI: RELATIONSHIP TO HUMAN ACTION
TO WHOM DO WE GIVE INSTRUCTIONS THROUGH LEGISLATION?

PEOPLE?

MACHINES?
NYPD used facial recognition to track down Black Lives Matter activist

Mayor Bill de Blasio says standards need to be “reassessed”

By James Vincent | Aug 18, 2020, 5:26am EDT

Black Lives Matter activist Derrick Ingram (above) was targeted by the police for alleged assault. | Photo by Ira L. Black - Shutterstock
ML engineering: find the model that best predicts the training data
PHOTO ALGORITHMS ID WHITE MEN FINE—BLACK WOMEN, NOT SO MUCH

When asked to analyze the lightest male faces in the image set, Microsoft’s service correctly identified them as men every time. IBM’s algorithms had an error rate of 0.3 percent.

When asked to analyze darker female faces, Microsoft’s service had an error rate of 21 percent. IBM and Mevii’s Face++ both had 35 percent error rates.
Racist Camera! No, I did not blink... I’m just Asian!
Published on May 13, 2009 in General. 52 Comments

We got our Mom a new Nikon S630 digital camera for Mother’s Day and I was playing with it during the Angels game we were at on Sunday.

As I was taking pictures of my family, it kept asking "Did someone blink?" even though our eyes were always open.

Sheesh! RACIST! :P

–Joz
TO WHOM DO WE GIVE INSTRUCTIONS THROUGH LEGISLATION?

PEOPLE?

MACHINES?
Stop at through highway
136 (1) Every driver or street car operator approaching a stop sign at an intersection,

(a) shall stop his or her vehicle or street car at a marked stop line or, if none, then immediately before entering the nearest crosswalk or, if none, then immediately before entering the intersection; and

(b) shall yield the right of way to traffic in the intersection or approaching the intersection on another highway so closely that to proceed would constitute an immediate hazard and, having so yielded the right of way, may proceed. R.S.O. 1990, c. H.8, s. 136 (1).
TO WHOM DO WE GIVE INSTRUCTIONS THROUGH LEGISLATION?

PEOPLE WHO BUILD MACHINES?
Conventional Programming

IF \( X \), THEN \( Y \)

DATA

RULES

IF \( X \), THEN \( Y \)

DECISION

\( X \)

\( Y \)
Machine Learning

LEARNING ALGORITHMS

IF X, THEN Y

"Black box"

DATA

TRAINING DATA

Y
CORE CHALLENGES OF REGULATING AI:

COMPLEXITY OF TECHNOLOGY

SPEED OF CHANGE
THE COMING SHIFT IN LEGISLATION?

FROM INSTRUCTIONS TO OUTCOMES

SELF-REGULATION?
LICENSED THIRD-PARTY PRIVATE REGULATORS?
AI TO REGULATE AI?
Core challenge of Regulating A?

**Reinventing Law**

Law ≠ Legislation

Legislation = Mechanism to coordinate appropriate behaviour