

A large, colorful Zulu pattern in the top-left corner, featuring a central red and blue geometric design with yellow and green accents.

Decolonisation in Artificial Intelligence

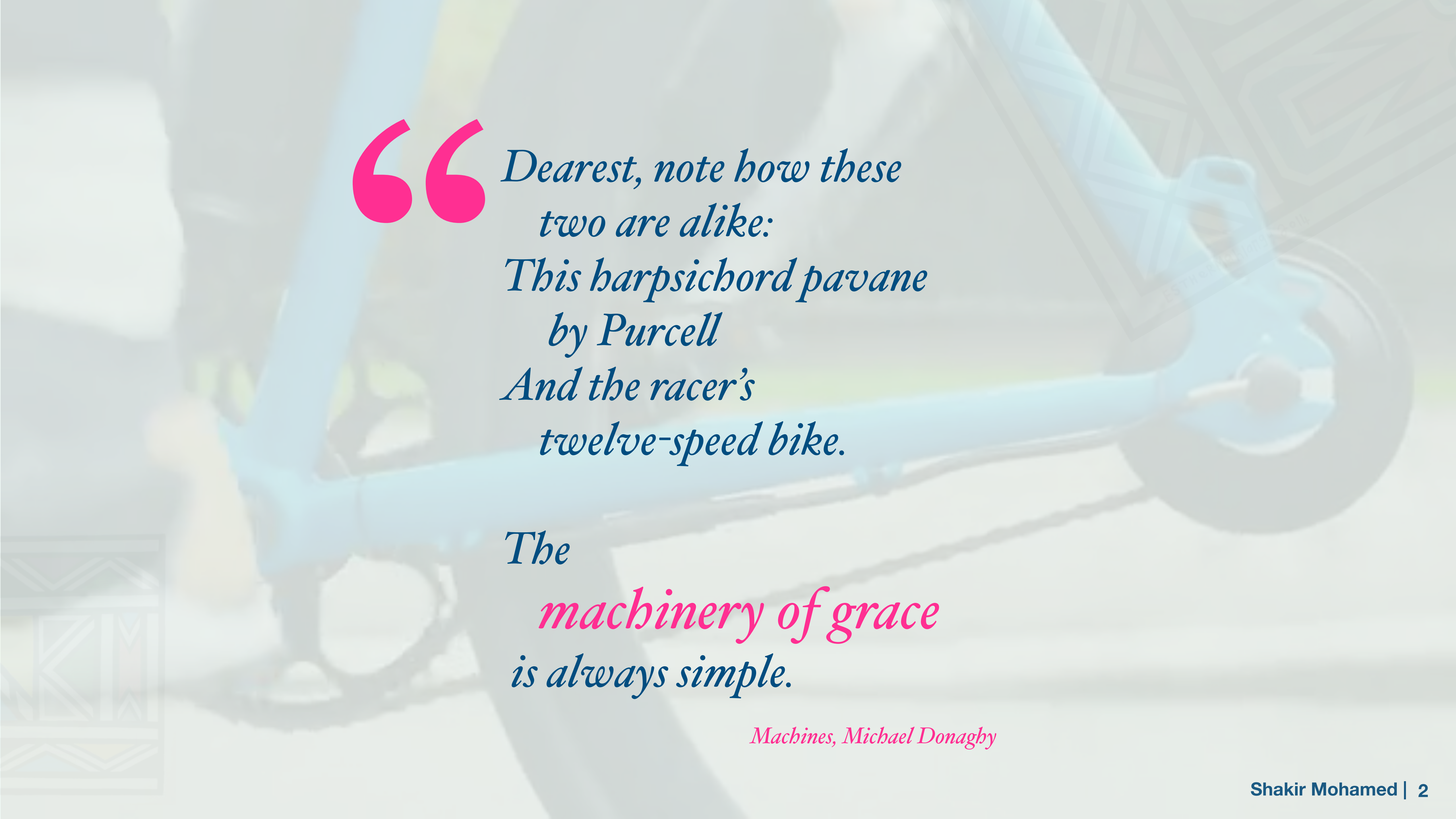
Shakir Mohamed

 @shakir_za

#IDES

Intercultural Digital Ethics,
Oxford, 10 Dec 2019.





“Dearest, note how these
two are alike:
This harpsichord pavane
by Purcell
And the racer’s
twelve-speed bike.

The
machinery of grace
is always simple.

Machines, Michael Donaghy

Cognitive Abilities

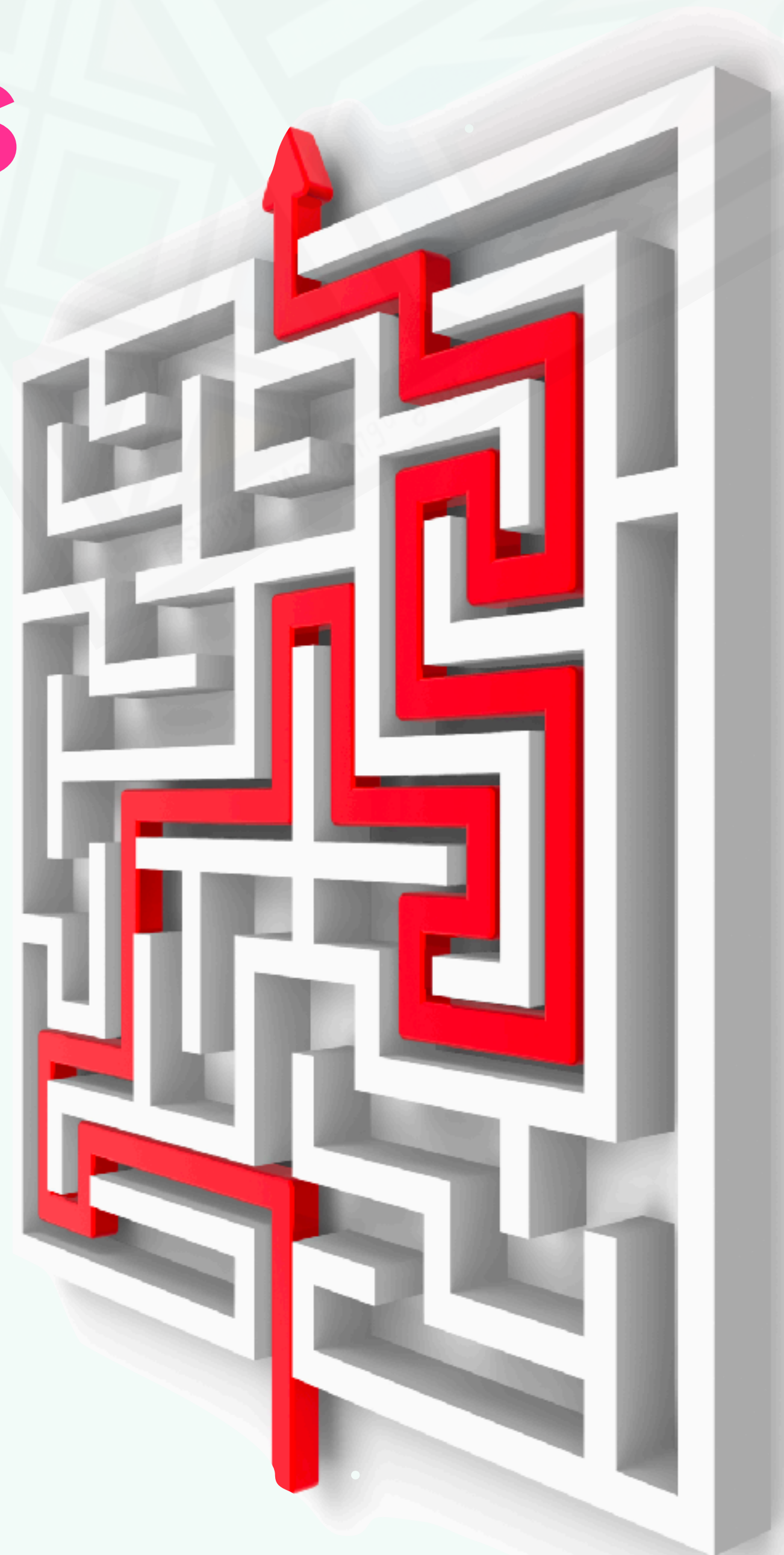
Recognise objects and affordances

Explanation

Cause and effect

Planning

Confidence and uncertainty



Principles to Products

Applications

**Assistive
Technology**

**Advancing
Science**

**Climate and
Energy**

Healthcare

**Fairness and
Safety**

**Autonomous
systems**

Reasoning

Planning

Explanation

Rapid Learning

**World
Simulation**

**Objects and
Relations**

Information

Uncertainty

Information Gain

Causality

Prediction

Principles

**Probability
Theory**

**Bayesian
Analysis**

**Hypothesis
Testing**

**Estimation
Theory**

Asymptotics

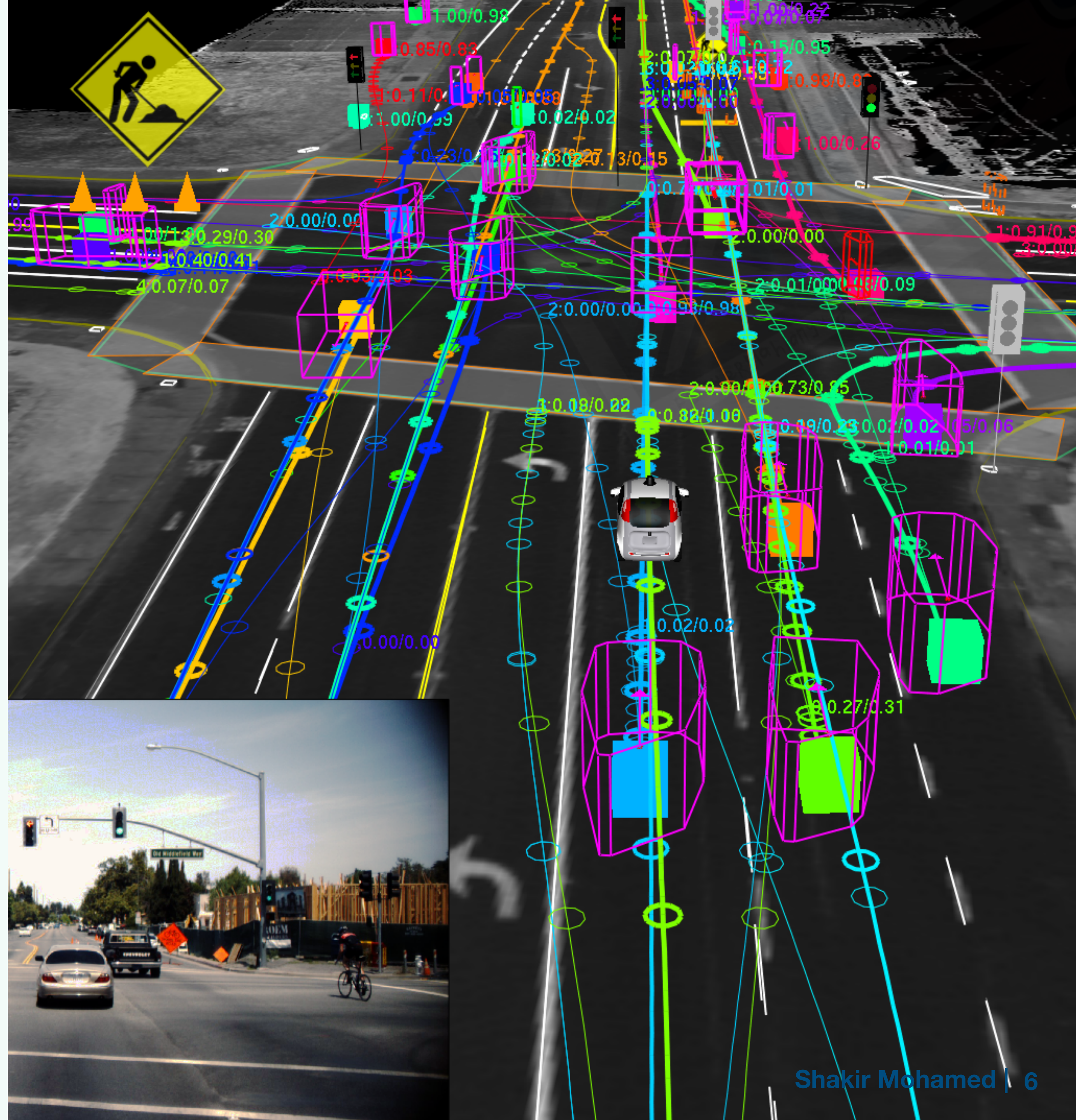
Discussion

- 1. Brief review of ML research today.**
- 2. Critical theories and coloniality in data and algorithms**
- 3. Theories and actions**

Supervised Learning

Aim: Learn mappings from inputs (data, features) to outputs (labels, segments behaviours)

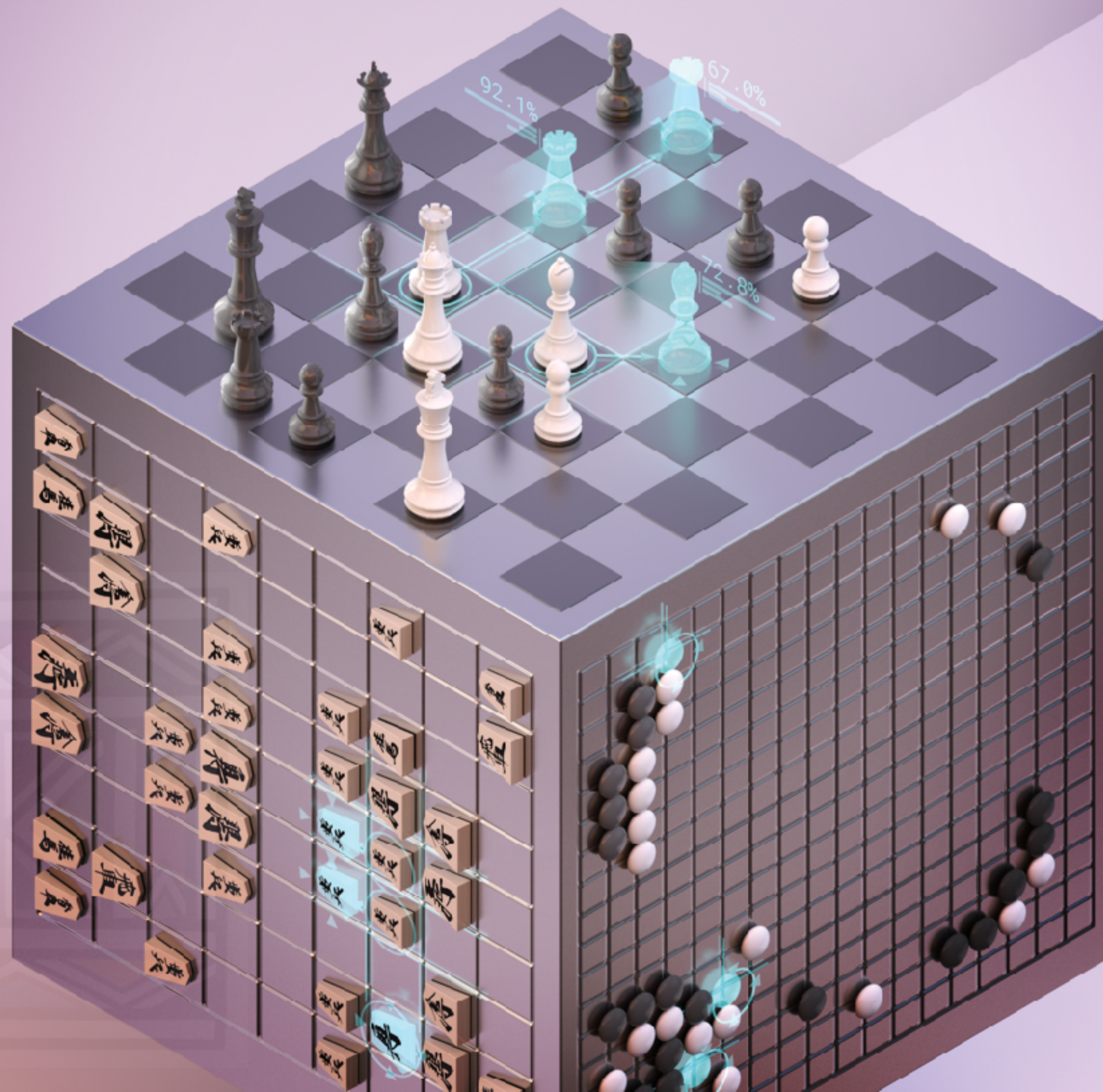
Examples: Detection in self-driving cars, language translations, medical image segmentation and health record analysis, web search



Reinforcement Learning

Aim: Learn mappings from inputs (data, features, perceptions) to outputs (rewards, costs)

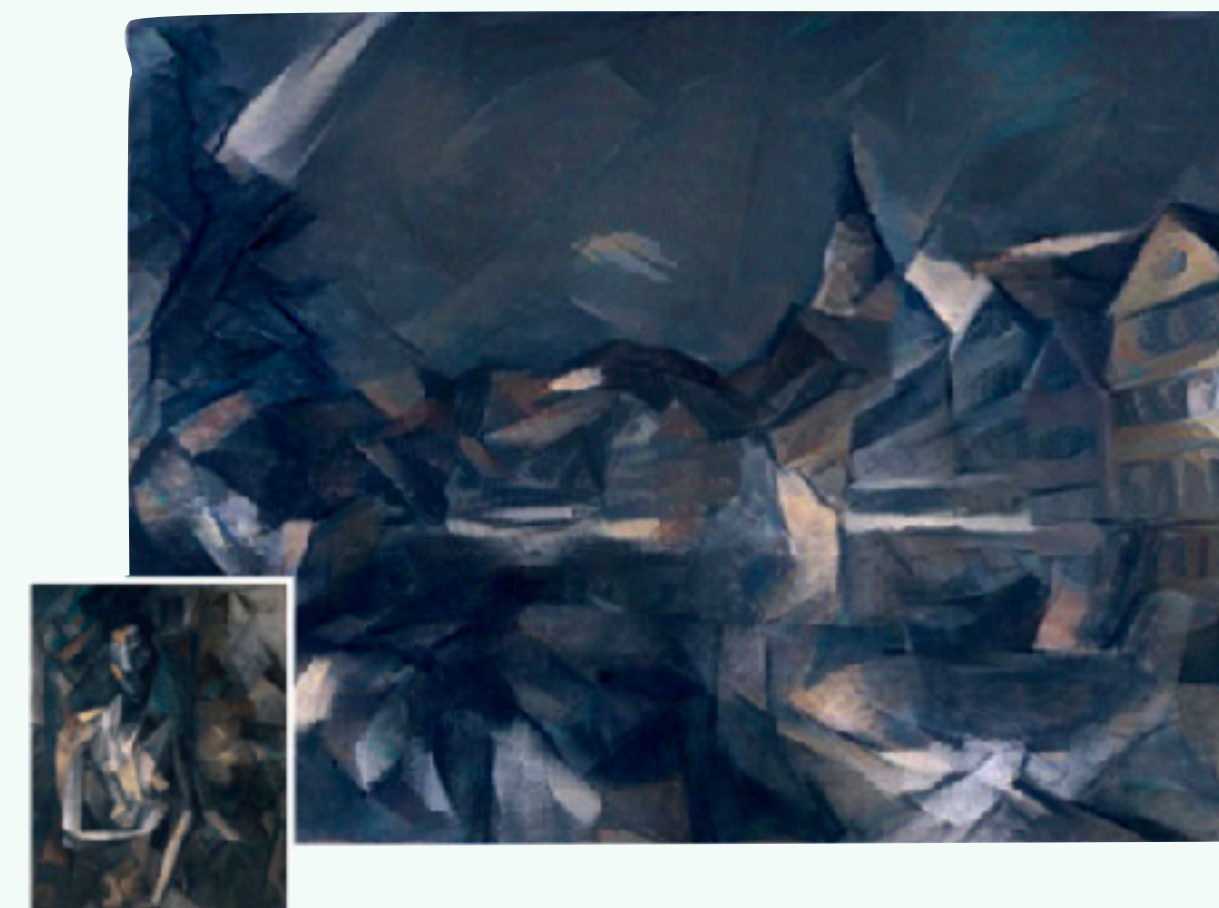
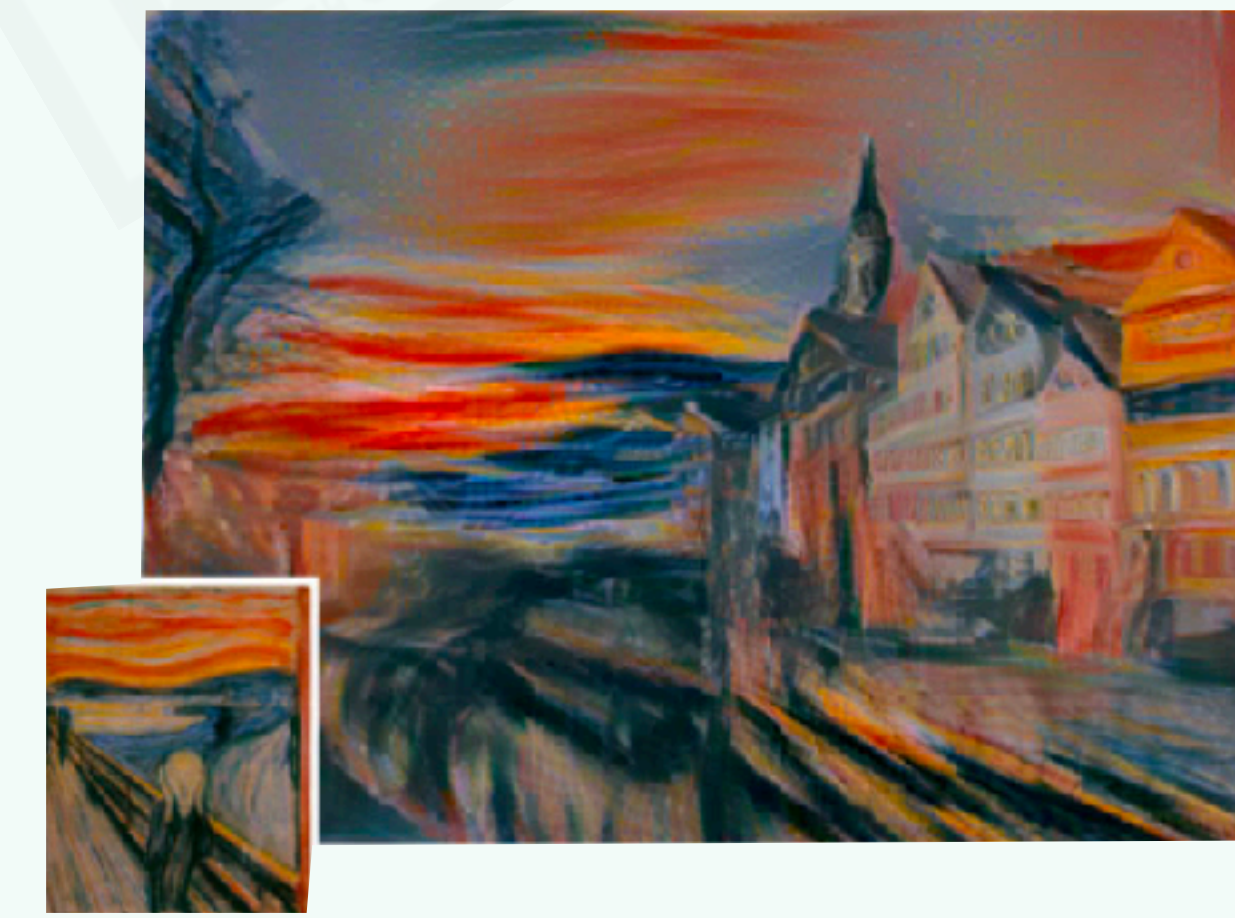
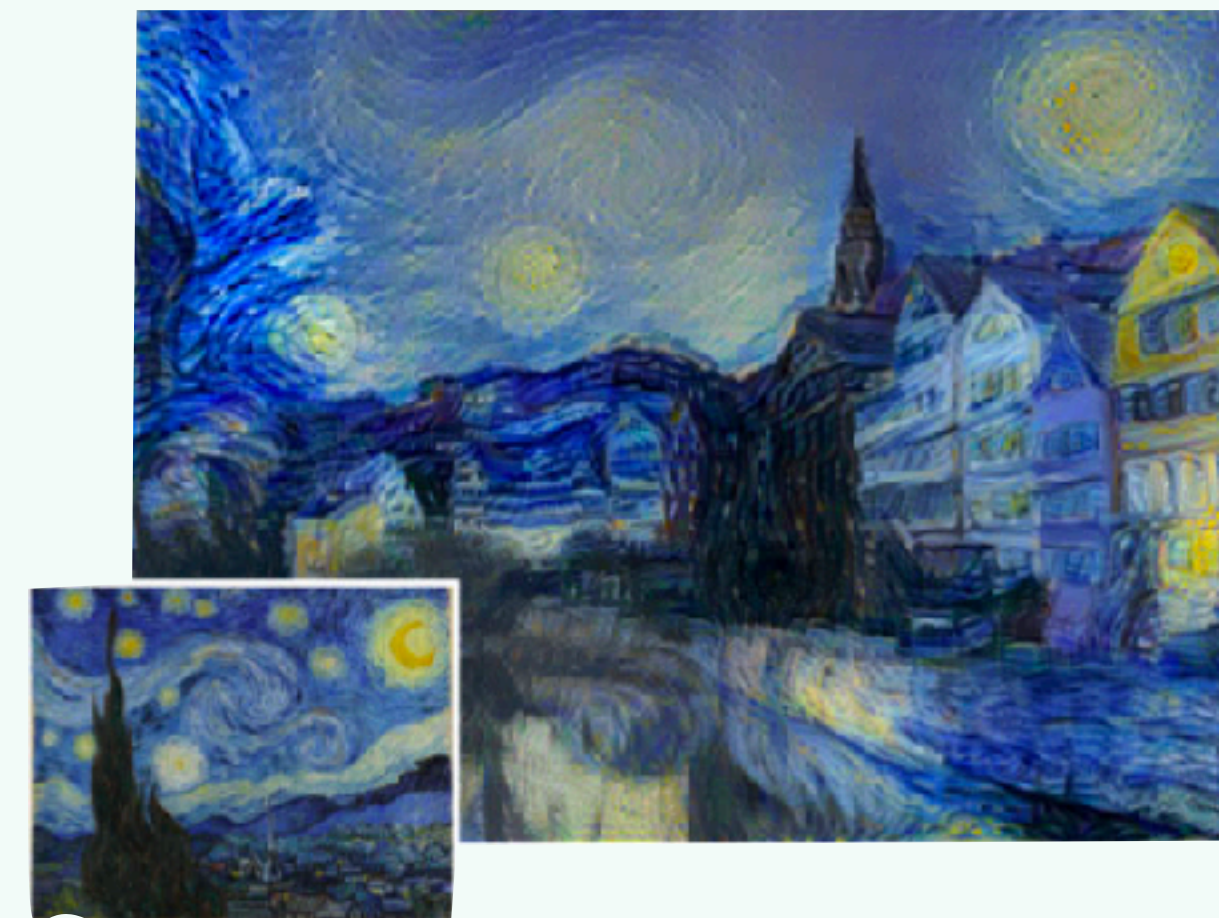
Examples: Control systems, Chess, Go games, robot learning



Unsupervised Learning

Aim: Learns from inputs only, No explicit mapping asked, but rather some underlying structure.

Examples: Language generation, synthetic images and video, topic discovery.





Space and Knowledge

Entanglement of physical and digital spaces.

Similar in many ways. Yet unique to the 21st century.
Subject to change, control, contestation.

Entanglement of Knowledges

Modes of encounter and action are shaped by the past. Shape legitimacy, authority, opportunity.

Sites of Coloniality

Researchers per Million



4000



400



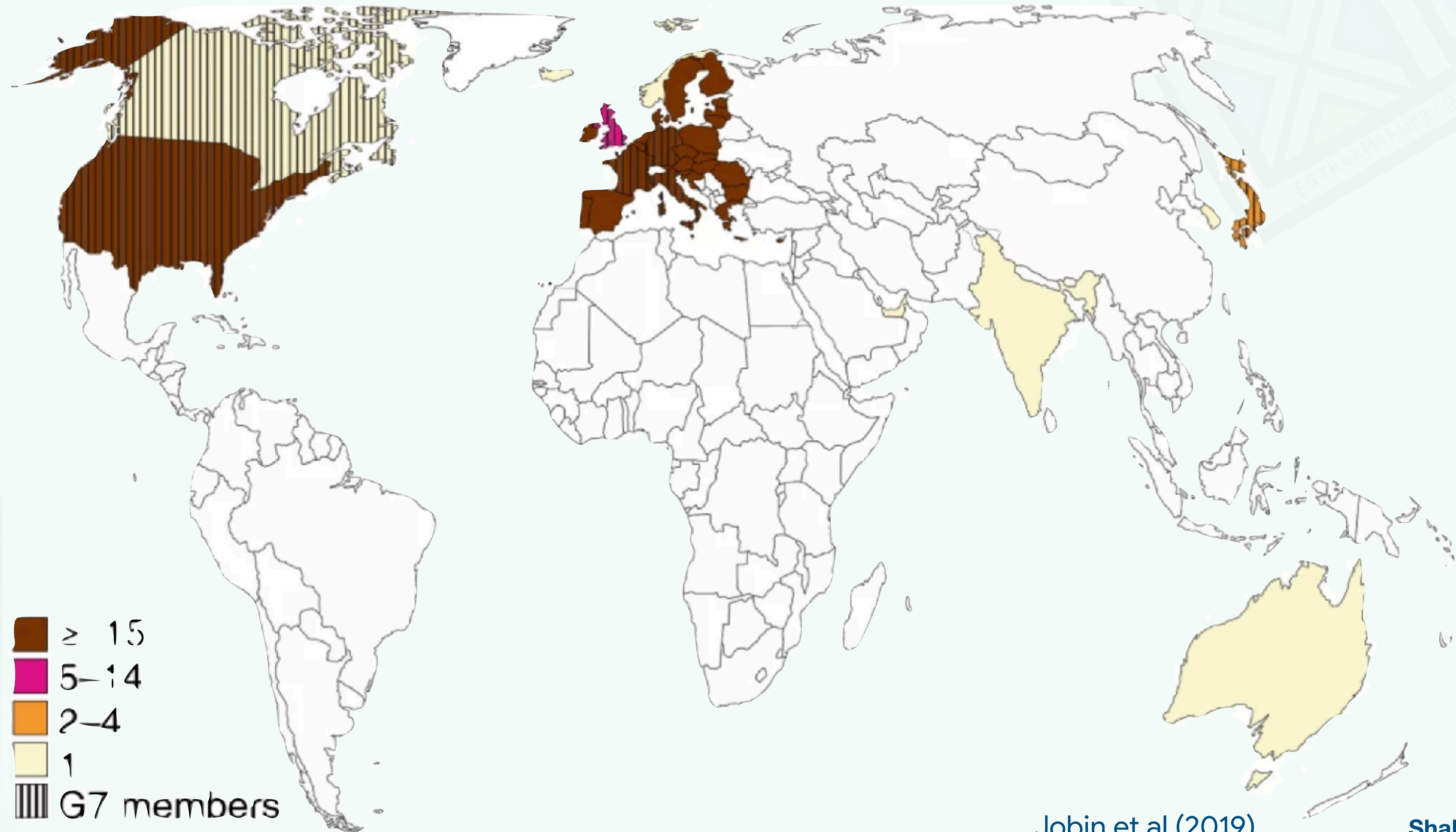
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Critical Viewpoints

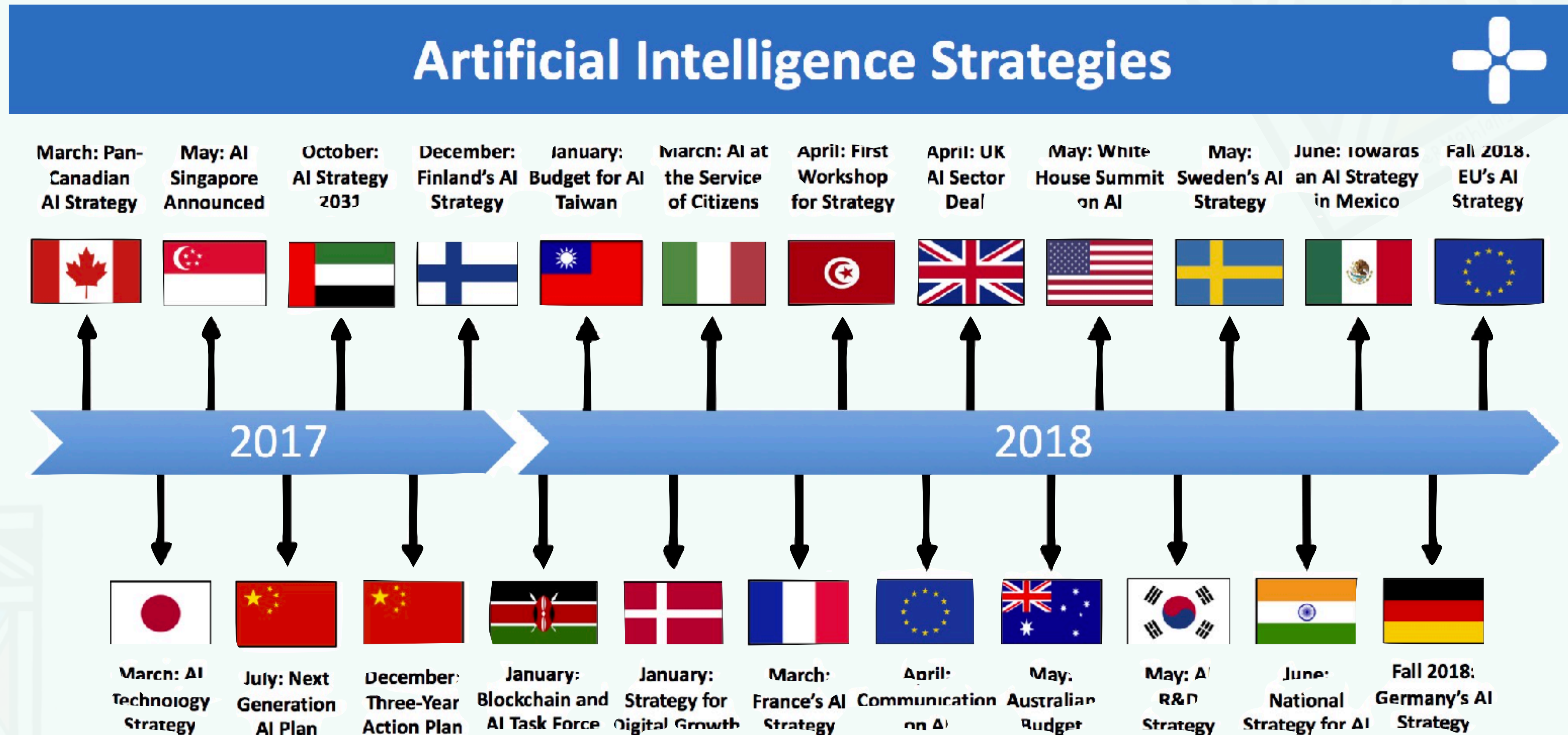
Mechanisms of power, economics, language, knowledge and culture continue to shape contemporary life, and continues to influence science and its work.

- 1. National policies on AI**
- 2. Beta-testing**
- 3. Ghost Workers**
- 4. Justice**
- 5. Development**

National Policies on AI



National Policies on AI



2018-07-13 | Politics + AI | Tim Dutton

Dutton (2018)

National Policies on AI

AI Nationalisms - new types of geopolitics. “Increased protectionist state action to support national champions, block takeovers by foreign firms and attract talent.”

“Unless they wish to plunge their people into poverty, they will be forced to negotiate with whichever country supplies most of their AI software—China or the United States—to essentially become that country’s economic dependent.” Kai Fu Lee, 2017.

Who is developing policies on AI and Ethics?
Identify centres of power, and peripheries, undo
languages of metropole and south?



Beta Testing



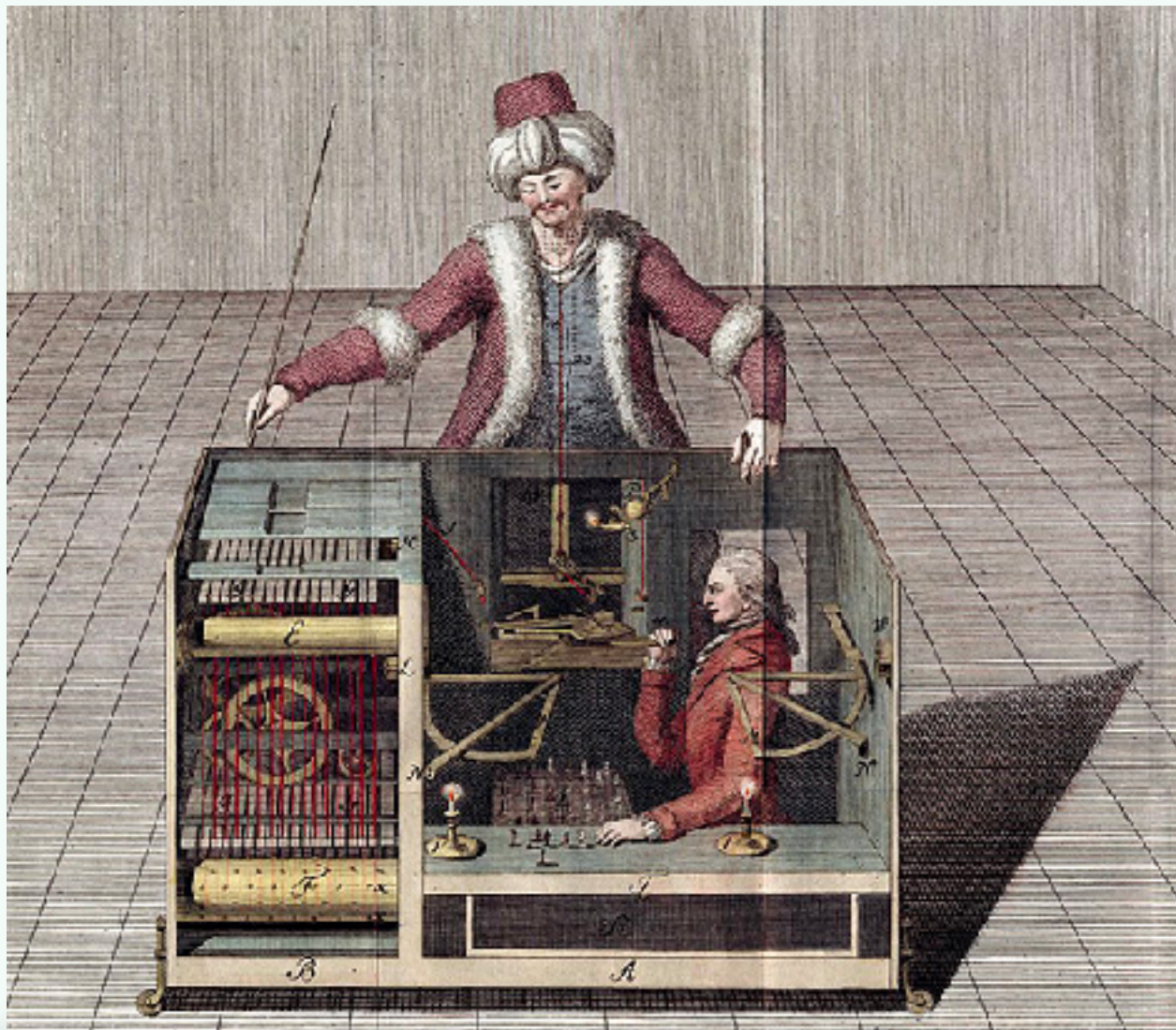
Example of political interference in Nigeria and Kenya to refine algorithms and data collection.

Exploitative situations unfold, and systems refined in low-regulation regions and deployed elsewhere.

Questions of accountability, responsibility, contestation and redress.

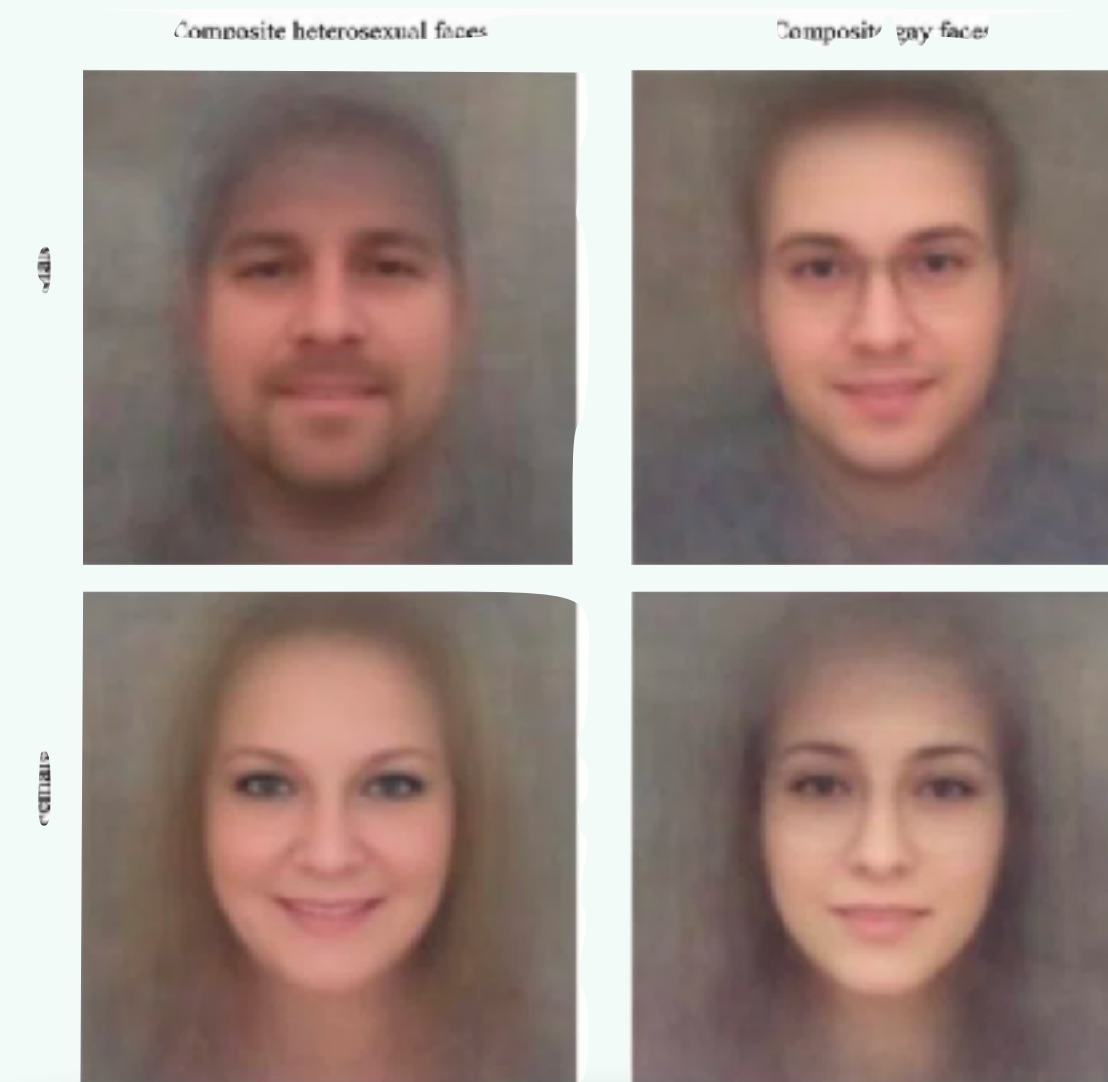
Working and Justice

Remote Workers



Tension between supporting economic development and extraction.

Gay face detector



Reproduce injustice and bias when data reflects pre-existing inequality.

Facial cloning



Synthetic media brings into question trust and authenticity

Bringing into focus the role power, undoing harmful social constructs, ease of reproducing bias and injustice.

Social Development



AI for SDGs, AI4D, Social Good
Neutrality traps: solutionism,
formalism, portability

Ethics dumping

- Failure to consider social context and implications
- Lower ethical standards
- Side-stepping regulation.

**Move away from benevolence and paternalism
towards strong political community.**

Pathways and Questions

- 1. Philosophical and critical theories**
- 2. Research cultures and Inclusion**
- 3. Technical solutions**

Philosophy and Criticism

Decolonial tactics:

- Intercultural dialogue: movements from paternalism and benevolence towards solidarity
- Reverse tutelage and reciprocal engagements.
- Affective and political communities that support self-emancipation.

Value Alignment

- Learning preferences and matching AI behaviour to human values.

Philosophies of the human and plurality.

Research Cultures and Inclusion

Putting principles
into practice

- ▶ Equity, diversity, inclusion
- ▶ Community-engaged research
- ▶ Tech policy using Diverse Voices
- ▶ Citizen's juries
- ▶ Grassroots organisations

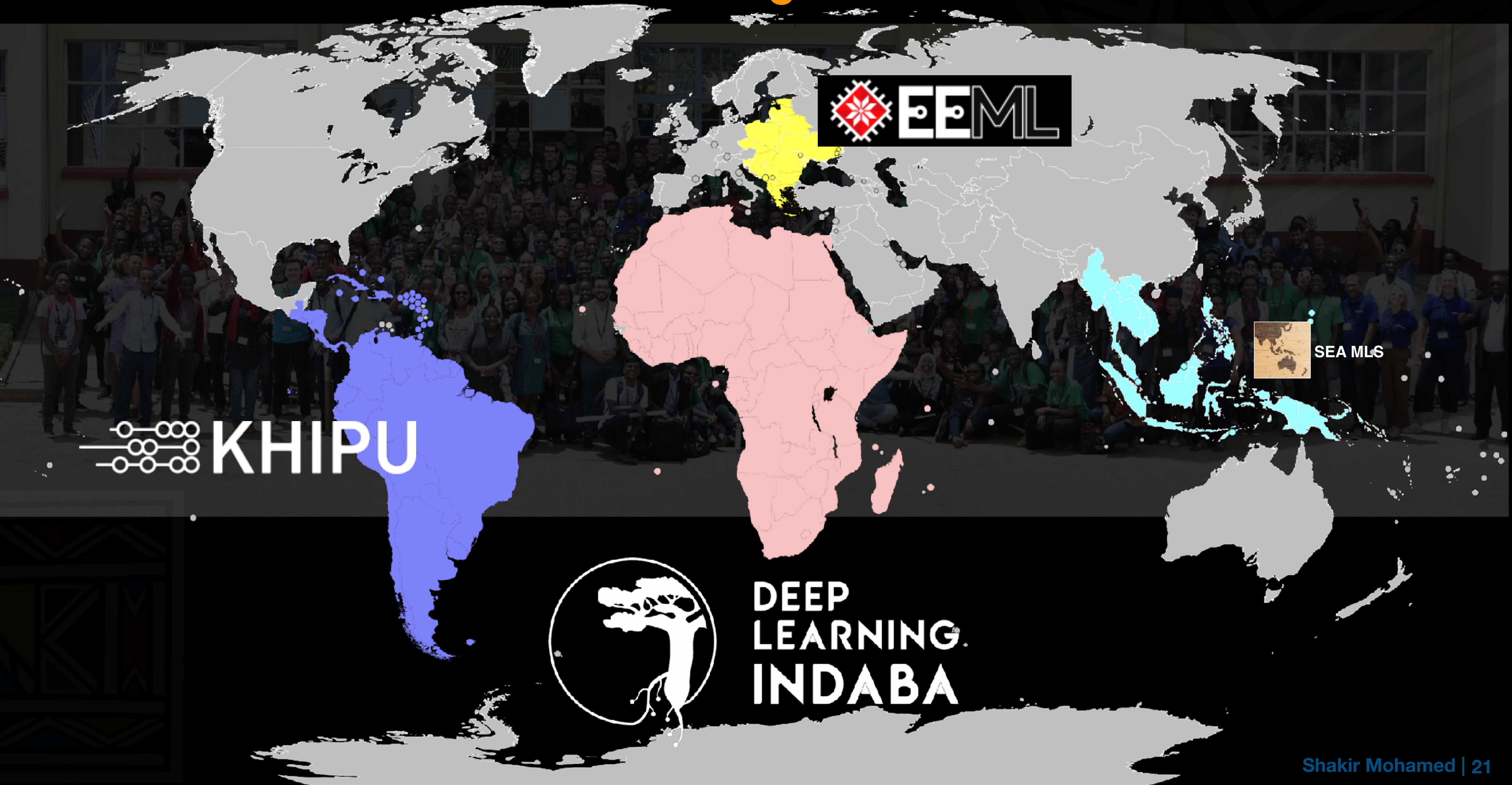


Citizens Juries on Artificial Intelligence



DEEP
LEARNING
INDABA

Transforming Global AI



Technical Solutions

Technical AI safety.

Fairness, accountability,
transparency

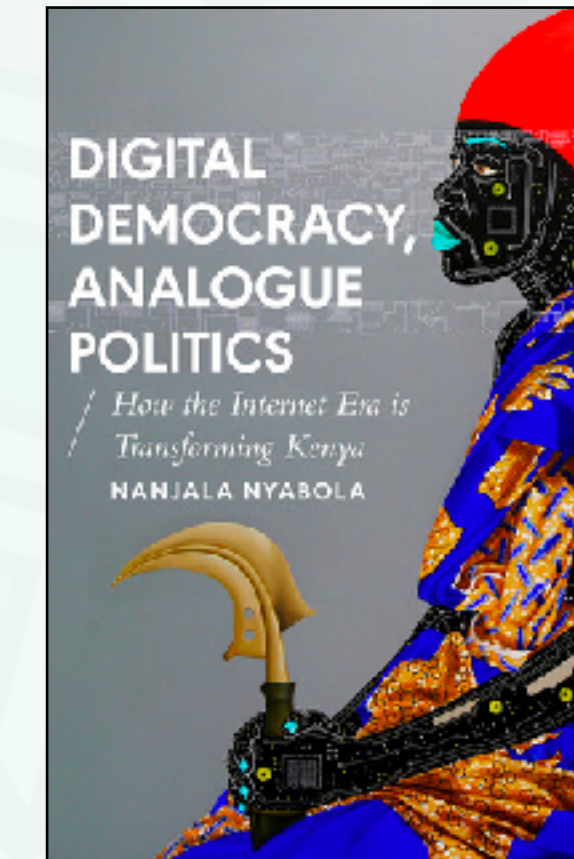
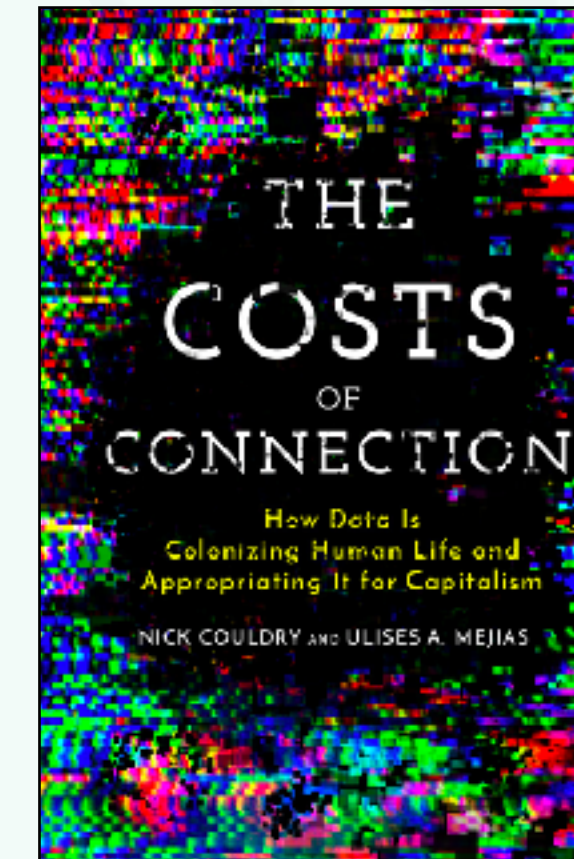
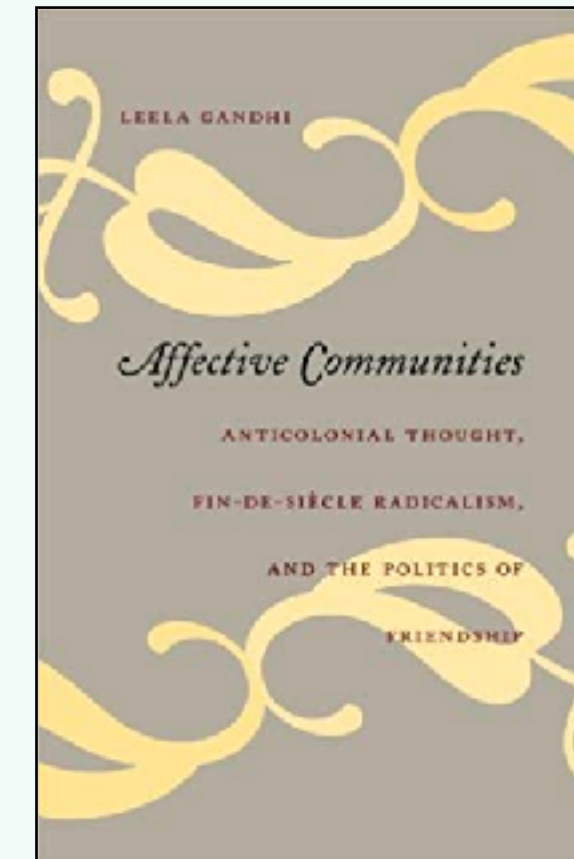
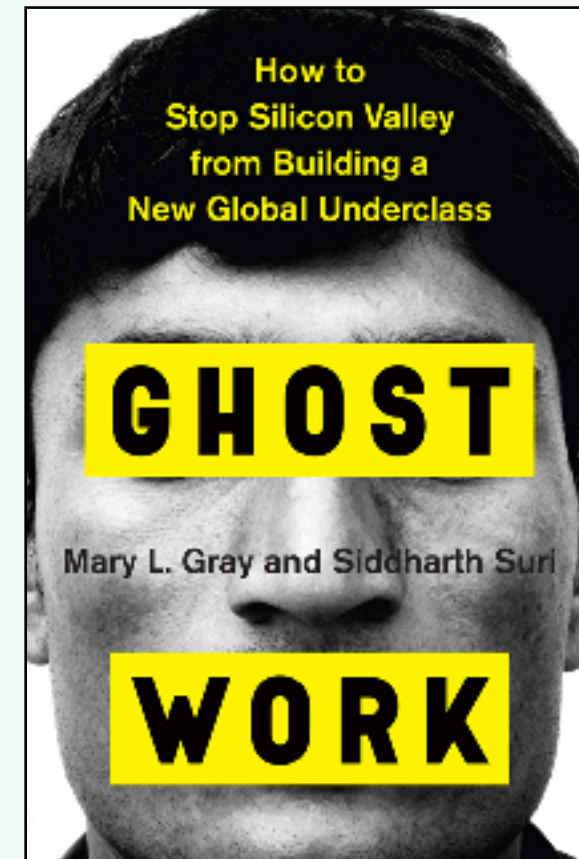
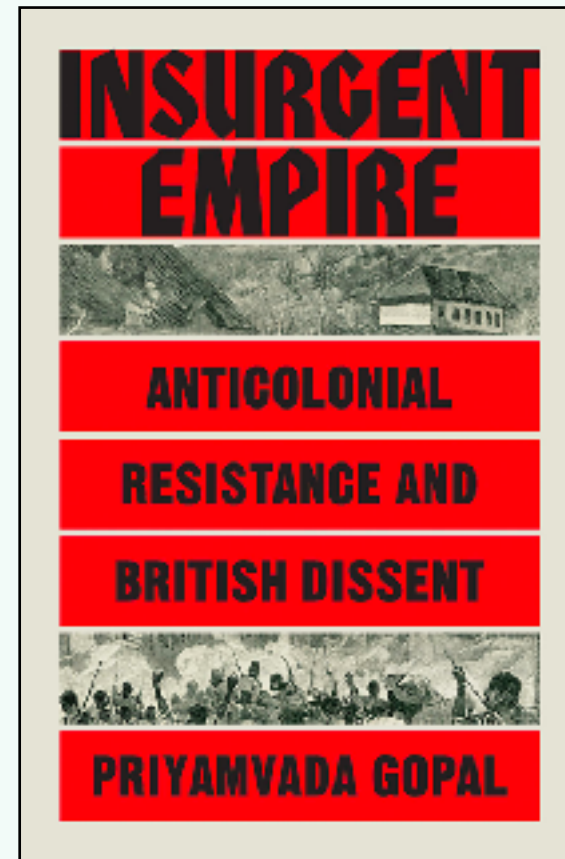
Data ownership, protection ,on-
device computation,
differential privacy, data-trusts.

Open-access research, open-
source code

A Critical Practice of AI

- ▶ Values in Science
- ▶ Coloniality and power in technology
- ▶ Genuine intercultural dialogues and reverse pedagogies.
- ▶ Political and affective communities in practice.
- ▶ Plural philosophies of the human
- ▶ Practice





Some Questions

Reactions and alternatives to decolonisation?

Structuring discourse on technological power?

Economic perspectives to consider?

What should we work on together?

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