

Algorithmic Institutionalism



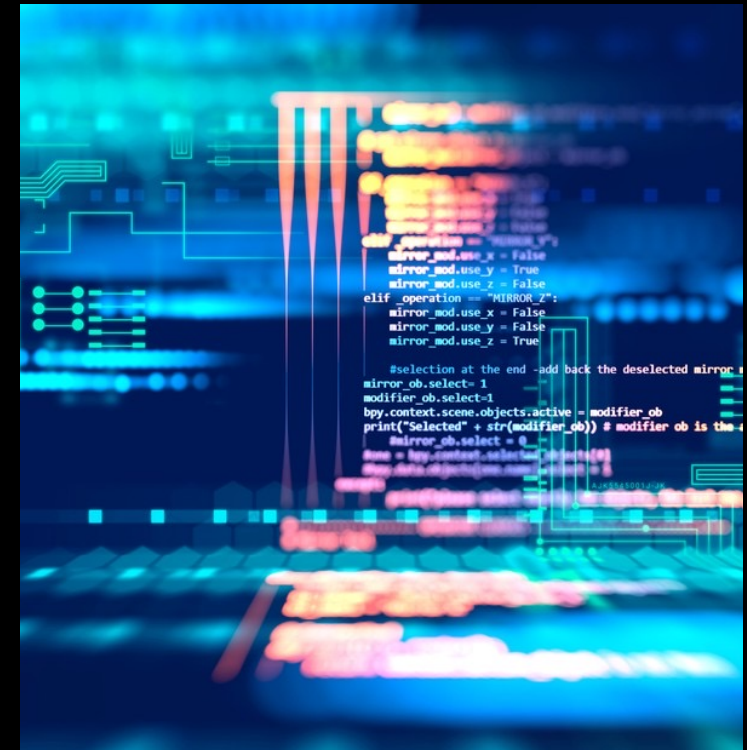
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March 2024

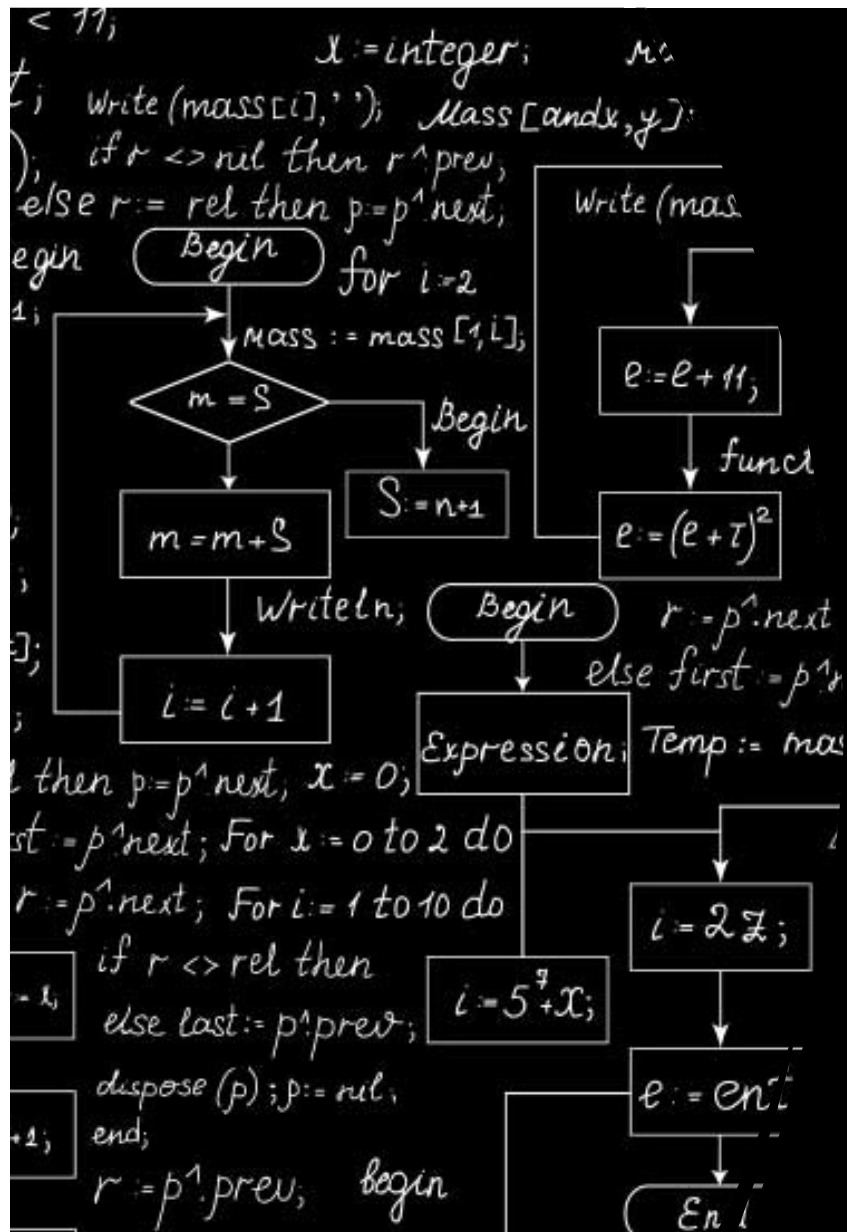
Algorithmic Societies

- We depend on algorithms for a growing number of activities
 - ✓ Urban Mobility
 - ✓ Relationships
 - ✓ Definition of work shifts and schedules
 - ✓ Access to Welfare policies
 - ✓ Medical Decisions
 - ✓ Policing and Criminal Dosimetry



Politics of Algorithms

- Growing attention in humanities and political science, especially in the context of social media
 - ✓ Fragmentation of the Public Sphere
 - ✓ Polarization
 - ✓ Disinformation and Denialism
 - ✓ Censorship
 - ✓ Bots



- The targeting algorithms that allow Ukraine to spot and destroy invading Russians aren't all that different from the facial-recognition algorithms that help China repress its citizens.
- What if AI advances eventually allow the algorithms themselves to take control, making decisions for reasons they can't explain, at speeds that humans can't match?
- Democratic societies need to be constantly vigilant about the algorithmic technology.

The Washington Post
Democracy Dies in Darkness

Subscri

Opinion | How the algorithm tipped the balance in Ukraine

By [David Ignatius](#)
Columnist | [+ Follow](#)

December 19, 2022 at 10:20 a.m. EST

A photograph showing a soldier in full camouflage gear, including a hood and mask, crouching in a field of tall grass. The soldier is holding a remote control device, likely for a drone. The background consists of a line of trees under a clear sky.

Who gets a kidney transplant? The algorithm that decides could be a model

David G. Robinson, author of the new book “Voices in the Code,” says input from nonexperts can help create more ethical algorithms.



Virgilio Almeida, 2023

Lessons from a high-stakes algorithm

- What may appear as a purely technical inquiry could be a moral dilemma, and its resolution should not be entrusted solely to technology experts.
- CS view: What is the accuracy of the algorithm? How many decimal places should they include in the algorithm/software, when calculating each patient's allocation score? The score is a key number, given it determines who lives, who dies.
- Four governance strategies:
 - Participation (multistakeholder),
 - Transparency,
 - Forecasting ,
 - Auditing.
- Governance reshaped the logic of the allocation algorithm.

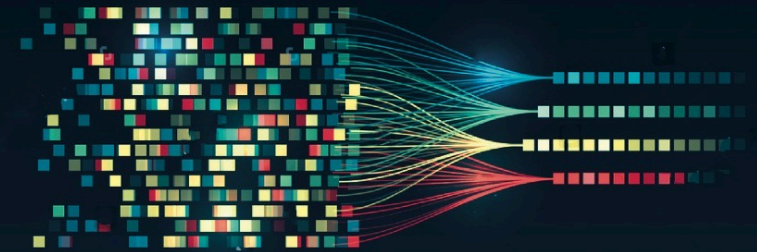
Conceptual Proposal

- Algorithms as sociotechnical artifacts structuring our decision-making capacity.
- Algorithms as institutions, that establish boundaries for individual behaviors, with collective implications.
- Dual movement between institutional theories and algorithmic societies.

OXFORD

algorithmic institutionalism

the changing rules of social + political life



RICARDO F. MENDONÇA | FERNANDO FILGUEIRAS | VIRGILIO ALMEIDA

Institutions

- An institution is a relatively enduring collection of rules and organized practices, embedded in structures of meaning and resources that are relatively invariant in the face of turnover of individuals and relatively resilient to the idiosyncratic preferences and expectations of individuals and changing external circumstances (March and Olson, 2006:3)





Institutions...

- Empower and constrain
- Reduce flexibility and variability
- Shape political actions by advancing logics of appropriate behaviour
- Establish authorities with decision-making prerogatives

■ Algorithmic Institutionalism allows navigating between established dichotomies:

- ✓ Animism vs. Instrumentalism
- ✓ Structure vs. Agency
- ✓ Determinism vs. Openness





Analytical Framework

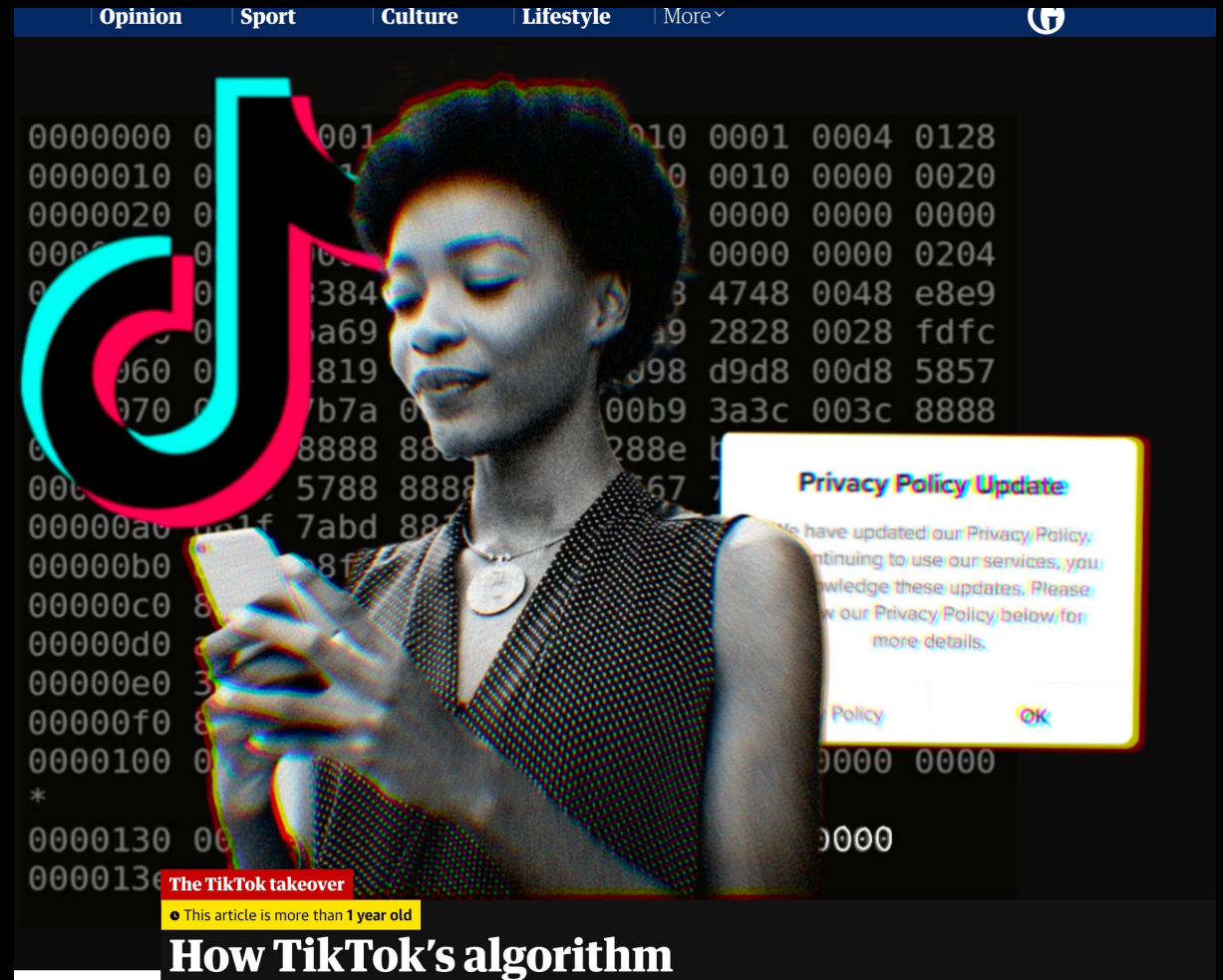
1. Institutional Construction and Design
2. History: Critical Junctures and Path Dependence
3. Rules and Norms: Individual Behavior and Collective Consequences



4. Power implications of algorithmic systems
5. Gaming: How individuals play with algorithms
6. Discursive dimensions of an algorithm



Algorithmic Recommenders



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The TikTok takeover

● This article is more than 1 year old

How TikTok's algorithm

Viewing recommender algorithms as institution (i)

- In the contemporary world, it would be unfeasible, even impossible, to find relevant content, products, and services without algorithmic tools that make content visible.
- Recommender algorithms are institutions designed around systems that monitor behavioural data to compete for consumer attention. e.g.: News feed algorithms.
- Dating algorithms shape social and cultural specificities through informal rules that establish what is allowed or prohibited in a social relationship. e.g.: on Tinder, everyone can make the first move, while, on Bumble, only women can initiate communication.

Viewing recommender algorithms as institution (ii)

- Gaming an algorithm involves various strategies and practices to subvert rules and norms to gain visibility, avoid censorship, or inflate content reputation. Consequence is the dissemination of disinformation and extremist content.
- Algorithmic recommendation systems define visibility and engagement mechanisms and shape the power relations in society, setting contexts for preference formation, fragmenting the access to expressions of preference.
- Discursive dimension: Amnesty International analyses the combination of Meta's business practices and the content-shaping algorithms that led to discrimination and violence against the Rohingya people.

Democratization of Algorithmic Systems

- Algorithmic institutions are confusing and opaque; they have ambivalent consequences, and they are pervaded by deep power asymmetries and games, e.g., elections in 2024.
- Algorithmic systems lack two main pillars of legitimation, that are central to democracy
 - Authorization
 - Accountability
- Values to Algorithm's Democratization: Participation; Equality; Pluralism; Accountability and Transparency; Public Debate; Freedom.



Institutions and Responsible AI

- The term responsible AI denotes the attempt to find practical ways of dealing with the various ethical, social and related issues. It is based on a long discussion of the concept of responsibility in law, social sciences and moral philosophy (Stahl, Nature 2023).
- Algorithmic accountability, presupposes an idea of responsibility of agents and responsiveness of institutions.
- The principle of accountability assumes that institutions can respond to citizens (responsiveness) and that the agents of these institutions are accountable to the public interest (responsibility).



AI governance

- If algorithms shape behavior and make collective decisions, their regulation and governance shouldn't be purely economic or bureaucratic.
- We must think about ways to control algorithmic institutions to make political orders created by algorithms more democratic.
- Since these institutions greatly affect how decisions are made and things are organized, they need democratic oversight.

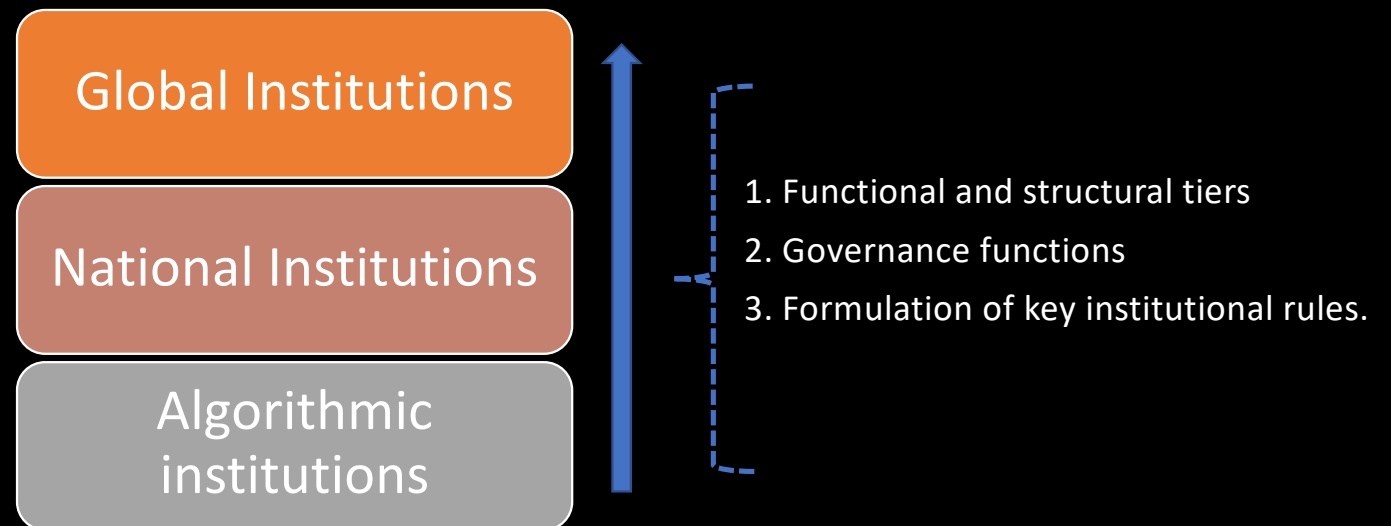




Ideas for the future (i)

- Technology/algorithm does not operate in isolation; it exists alongside people and is integrated within institutions and power dynamics.
- The governance frameworks of institutions provide a blueprint for exploring novel approaches to regulating algorithms and AI.
- Ensuring effective AI governance entails holding accountable those who develop and implement technology for its impact on individuals and society.

A layered hierarchy for overseeing AI governance



Ideas for the future (ii)



- The book outlines a conceptual proposal needed to extend new institutional approaches developed from other policy domain (e.g., environmental governance) to algorithms and AI governance solutions.
- The idea of algorithm as institution accommodates and deal with institutional diversity as part of the solution for adaptive governance (Ostrom et al., 2005).
- Defining governance institutions goes beyond assessing bureaucratic and economic winners and losers. Democratization and social justice must also be integral components of the governance mechanisms. (Paavola, 2007)



Thank you!

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