AI GOVERNANCE OF AI GOVERNANCE

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AI GOVERNANCE

Ubiquitous connectivity, increased automation, and the proliferation of artificial intelligence and machine learning technologies are altering current ways of organizing space and societal dynamics, as well as managing resources and guiding decision making processes at an increasingly rapid pace.

Artificial intelligence (AI) is often referred to as a general purpose technology (GPT) or in other words, a technology that can fundamentally transform economic, social, military processes, often in ways that are hard to govern since both the benefits and harms are diffuse and challenging to grasp (Dafoe, 2018). Regardless to what extent we are aware of its pervasiveness in our lives, AI is currently having and will continue to have a dramatic impact on the way we live and engage in with the urban fabric.

An artificial intelligence can support a number of areas of governance and urban management, from provision of services and allocation of resources to processes of decision making, to increasing transparency and equity (Brauneis and Goodman, 2017). As AI increases in importance and develops potential to inform a number of strategic domains in the coming decades, there are a number of important opportunities as well as risks that arise.

From predictions to analytics, artificial intelligence and automated systems can provide a wealth of information and insights otherwise unavailable, and often reaching a level of complexity exceeding the scale of human perception and abilities. Access to this information can alter how we use and engage in urban life, but also inform how these spaces are governed.

GOVERNANCE OF AI

“Whoever leads in AI will rule the world”

Putin

While AI as a governance tool becomes itself a highly complex matter, the governance of and over AI is equally as diffuse and extensive. Alan Dafoe from the Center for Governance of AI defines ideal governance of AI as: “understanding the ways that infrastructure, laws, and norms can be used to build the best city, and proposing ideal master plans of these to facilitate convergence on a common good vision. “(Dafoe, 2018). He specifies that it is crucial to focus on the institutions and contexts in which AI is built and used, and seek to “maximize the odds that people building and using advanced AI have the goals, incentives, worldview, time, training, resources, support, and organizational home necessary to do so for the benefit of humanity” (Dafoe, 2018).

GOVERNANCE OF AI

With the increasing prominence of AI enabled governance in social, economic, political, ecological systems, it is equally as important to reflect on the terms of “governance” of and over AI. With this, a number of questions emerge including:

What kind of frameworks of responsibility and models of liability be shaped/formed.

Can International Law provide to regulate harm caused by technologies operating with limited human involvement?

What kind of institutions emerge (either deliberately or accidentally) to govern algorithmic ethics?

What are the new kinds of platforms of Inter Governmental Organization (IGO’s) required to regulate AI? What role can they offer?

How can multilateral and multi-stakeholder approaches be included to form internationally-agreed guidelines for the design of AI?

Windfall clause: The common good principle: Superintelligence should be developed only for the benefit of all of humanity and in the service of widely shared ethical ideals. A “windfall clause” to the effect that … profits in excess of [a very high threshold, say a trillion dollars annually] would be distributed to all of humanity… Adopting [it] should be substantially costless … its widespread adoption would give humankind a valuable guarantee … [that] everybody would share in most of the benefits. Legally plausible under Delaware law

Dafoe, 2018

METHODOLOGY

The methodology for this paper consists of two areas of 'adversarial' research conducted in parallel in order to contrast, inform and expose different themes, and map out the meaning and implications of AI and Governance.

This paper critically explores "AI geopolitics as white papers". A white paper consists in an authoritative report or guide that informs the issuing bodies philosophy and position regarding a complex issue. As opportunities with AI arise, so do risks. For the purpose of this research we did not include an entity that has announced their intention to develop a strategy or have a white paper for AI, but only focused on the papers published in the last few years.

The methodology for the first part was carried out as follows:

- Compiling 'AI as Geopolitics White Papers' published by different entities and stakeholders (nation states, association of counties, private entities,industry associations, and cities). [listed in XX] For the scope of this paper we analysed 25 white papers.
- Next, an analysis of these white papers was conducted by creating a checklist on spreadsheet, and indicating the different topics addressed in these white papers [See XX]
- In parallel, we conducted further research into: (1) Who trains the trainer (Datasets, Bias & ethics in training AI systems), (2) Platform Sovereignty, and (3) Institutional Forms as the adversarial counterpart to our research in order to compare, contrast, expose overlaps, disagreements and unusual similarities, and suggest an initial problematization AI governance and governance of and over AI.
- Following this, we recategorized the different topics under broader categories, as follows (and discussed in detail the next section)

Categories:

REBIASED
USER-CITIZEN
AI ALLEGIANCE
FUTURE OF WORK
LICENSING AFFINITIES
TECHNOLOGICAL DECISIONISM
GAMIFIED GOVERNMENTALITY
AI EGALITARIANISM
CROSS/TRANS/INTER OPERATIONALITY

(4) We selected three cases studies to illustrate or problematize these categories.

	Canada	China	Denmark	EU	Finland	France	Germany	India	Italy	Japan	Mexico	New Zealand	Nordic -Baltic Region	Singapore	South Korea	Microsoft (AoI)	Microsoft (MVfAIE)	ASEAN	Google	AHRC+ World Economic Forum 2019	Intel	Dubai	The Geneva CONSENSUS
Ethics		✓		✓		✓	✓	✓	✓		✓	✓	✓	✓			✓		✓			✓	
Global leadership in development		✓		✓		✓		✓							✓								
Global leadership in application		✓		✓	✓																		
Research (& Innovation)	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓			✓	✓		
Talent (skills & development)	✓	✓			✓	✓				✓	✓	✓	✓	✓	✓	✓							
Investment		✓		✓		✓								✓	✓			✓			✓		
Data & Privacy		✓						✓	✓		✓	✓	✓			✓	✓	✓	✓		✓	✓	✓
Industry		✓		✓	✓					✓				✓	✓								
Education		✓									✓				✓	✓		✓			✓		
Regulations & standards		✓		✓		✓			✓			✓	✓					✓			✓		
Security & safety		✓	✓	✓				✓	✓				✓			✓		✓	✓		✓	✓	✓
Enhance DigTech usage by business sector		✓	✓			✓	✓	✓		✓		✓		✓	✓			✓					
Preparing people for AI	✓	✓	✓	✓	✓			✓		✓	✓	✓		✓		✓			✓		✓	✓	
Transparency				✓								✓	✓			✓	✓		✓			✓	✓
AI integration in public service		✓			✓		✓		✓	✓	✓	✓		✓									
Open data						✓	✓														✓		
public data									✓	✓		✓											
Start-ups support		✓	✓			✓	✓	✓	✓	✓				✓	✓			✓					
Social inclusion				✓			✓	✓				✓											
AI Garage							✓	✓															
Digital Infrastructure	✓	✓	✓	✓							✓				✓								
Empowerment		✓	✓	✓	✓			✓								✓	✓						
Optimization & Efficiency		✓								✓						✓	✓				✓		
Accessibility & Inclusion							✓		✓							✓	✓	✓	✓	✓		✓	✓
Environmental concerns							✓									✓	✓	✓			✓		
Accountability & Liability							✓		✓			✓				✓	✓		✓		✓	✓	✓
Reliability		✓														✓	✓						
Technological/technical capacity		✓	✓	✓											✓	✓							
Fairness / Unfair Bias		✓		✓	✓	✓	✓	✓				✓					✓		✓	✓	✓	✓	✓
Standards		✓		✓									✓	✓				✓	✓		✓	✓	
Human-AI collaboration																			✓			✓	
Advances towards AI	✓	✓	✓				✓			✓	✓			✓	✓				✓			✓	
Human Rights				✓		✓								✓						✓			
Complexity		✓																					
Quality							✓																

REBIASED

If an AI system is only as good as the data it is trained on, how can we ensure dataset are representationally accurate, inclusive and fair, while reducing systemic negative bias. Automated decision systems are not built and used in isolation: humans classify what data should be collected to be used in automated decision systems, collect the data, determine the goals and uses of the systems, decide how to train and evaluate the performance of the system, and ultimately act on the decisions and assessments made by the systems.

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“the systems are discriminatory in part because the algorithms backing them are unregulated and difficult to challenge” Cathy O’neil - Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy

The proliferation of the use of AI in decision making begins to raise issues of representation, and transparency. If algorithms based on historical data perpetuate decades of conscious or unconscious bias, how can we govern what datasets are used to train the automated systems that inform social processes at the urban scale, in a way that these decisions do not simply replicate or amplify human bias (Douglas, 2017). If bias often “creeps in” even before datasets are developed is it possible to come up with tools that de-bias/re-bias datasets in order to inform automated systems in more objective ways. The question lies in whether it is possible to establish a technical or algorithmic way to overcome and reduce negative bias (Shadowen, n.d.).

Despite the promises brought by the use of automated systems in decision making processes, humans remain “responsible for defining what data should be collected, how it will be collected, and how it will be used,” and result these systems are not objective necessarily scientifically accurate (Algorithmic Accountability Policy Toolkit, 2018).

Furthermore, the issue of transparency arises especially with the use of machine-learning and deep-learning models of artificial intelligence, where often the “logic used for decisions cannot possibly be explained or understood even by the data scientists designing the underlying algorithms?”(“The Citizen’s Perspective on the Use of AI in Government,” 2019). This creates the “black box effect”, in which the input and output data are known but the process that leads from one to the other is not visible nor known, thus complicating attempts to reduce negative bias Algorithmic Accountability Policy Toolkit, 2018).

USER-CITIZEN

What new forms of citizenship and authentication arise under systems of AI governance? What happens when the system no longer recognizes you as a user or does not recognize your identity? Can you delete the history of your digital trace? How can a system deal with deviation and non-standard activity? Can you opt out of your digital identity? Can we practice our “Right to be Forgotten”? How much of traces of ourselves are out in the world are we really aware of?

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An important feature of the modern nation-state and of bureaucratic system, is the individual or citizen with credentials and different forms of exercising and authenticating your rights and identity. A citizen is tied to its official identity granted by the governing institution (for example a passport, registration ID, digital authentication ID, fingerprint etc.) and the records as well as privileges and responsibliities tied to this identity. At this level a number of criteria is applied to designate who qualifies as a citizen within a given system. The novel position of the citizen as user, can have an impact on notions of citizenship, as well as interactions with bureaucratic systems.

The contracts between the right to information and the “right to the city” is also problematic inasmuch as automated technologies and digital spaces have become an integral part of everyday urban life. As these boundaries become increasingly blurred, how do examine the power relations around conduits of digital information as it becomes urban (Shaw and Mark Graham, 2017? With increased digitization and automation, the “Right to the City” as posited by Henri Lefebvre in 1968 take on new dimensions (Shaw and Mark Graham, 2017). These identities can exert regulatory control over the terms of participation in the city and begins to question our “informational right to the city”.

With the proliferation of automated systems to support complex decision making processes, the notion of the identity and citizenship come into question. Will citizens become more of a user than a citizen? Who can qualify as a user and how will processes of identification and authentication be reformulated? Alternately, what kind of status and credentials are attributed to non-human users and how will they co-exist.

In the case of a system trained to delete fake accounts, identified a “real” account as “fake”, how can this user prove otherwise? Alternately, what kind of user will be excluded from systems in which AI decisions makes take on prominence

When asymmetries exist in accessing digital spaces, information and platforms, new forms of becoming a user of the city can potentially to “amplify a range of pre-existing spatial inequalities and create new urban divides through this dominance of digital information and spatial search.” Thus,with new forms of governance, belonging and accessing the city can deeply transform the logic of everyday life. (Shaw and Mark Graham, 2017).

AI ALLEGIANCE

By AI Allegiance we mean national interest in relation to AI. In that sense it is interesting to observe and recognises how empowerment (nation to platform) /sovereignty (platform to user)/public vs. private (citizen to nation) relationships change as a prerequisite or a side effect.

Firstly, what role did platforms come to play in leveraging the power of a state? It is important to outline how dominant AI nations i.e. US and China attempt to empower, or rather weaponise their ‘national champions’ (tech companies) to wage cold war between themselves. Their respective approaches are rooted in their inherent political systems, which arguably makes China much more straightforward in this game. (See AI Arms Race)

Secondly, AI undeveloped countries are looking for their own paths to technology, potentially leading to a dangerously Westphalian digital colonialism. (See CloudWalk Zimbabwe)

Platforms

Platforms do not necessarily want to be the best in the game, but choose the rules of the game. The ones we are particularly interested in are economic ecosystems that gain momentum by enabling third parties to make not just their own revenues but also innovate their own models.

The interaction between the platform and its users we deem interesting to explore further in biological terminology trying to explore an array from competition and predation to symbiosis, mutualism*, commensalism** and parasitism.

As Nick Srnicek writes, platforms are intermediaries and infrastructures. As intermediaries they link different users, while as infrastructures they stimulate their interaction and the development of new technologies which reinforce their architectures, likely by transforming it into something new. In the context of this research it was useful to reflect on the terminology proposed by Srnicek in Platform Capitalism, i.e advertising, cloud, industrial, product and lean platforms and look at their respective anatomies. In edition we were also interest in co operatives, humanitarian and non profits, as well as urban, entertainment and universities seen as platforms.

The metaphor of the Theseus ship serves us well as an image of how a platform is always in the state of perpetual transformation. They rely on the so called network effects to do just that.

Beyond being intermediaries and infrastructures they become policy influencers and stakeholders in the global geopolitics. By their inherent seamless evolution tech platforms of our times have become the agents of monumental rift, not only in the formal relationship between the state and the citizen but also in foreign policy. It is as if it is their hands which are on the ‘faders and toggles of organisation.’, as described by Keller Easterling in the context of the notion of medium design. Are these types of platforms behind what she describes as ‘…design of interdependencies, chemistries, chain reactions and ratchets.’? What would we come to understand if we would try to run a platform through the layers of the stack and map its function on each layer?

* a symbiotic relationship where both organisms benefit

** a symbiotic relationship where one organism benefits and one doesn’t but is unharmed

AI Arms race

The events unfolding in Seoul over a few days in March, 2016 echoed throughout the Asian continent. DeepMind's AlphaGO public win over GO world champion Lee Sedol in a five games was possibly not only a historic moment in the development of AI, but also a spark which ignited 'cold war' between China and the US. "We saw it as a win for technology," Terah Lyons, one of Barack Obama's science and technology policy advisers said. "The next day the rest of the White House forgot about it." In China however, 280 million people watched as the machine owned by a California company ran over worlds best player of a game invented more than 2,500 years an in the centre of a whole belief system. A few months later, the Obama administration published a series of reports grappling with the benefits and risks of AI. These chain of events Kai-Fu Lee, describes as Chinese Sputnik moment*.

The following year DeepMind triumphed again and this time over a Chinese GO master Ke Jie, followed by China publishing a document laying out the strategy to become the global leader in AI by 2030 called Next Generation Artificial Intelligence Development Plan. In October of 2017, China's president Xi Jinping laid out detailed plans, in front of 2,300 party members, for artificial intelligence, big data and the internet as core technologies that would help transform China into a leading industrial economy in the decades to come. This triggered a flood of similar documents by all corners of Chinese government from ministerial to the local government level all allocating funds for AI ventures. Chinese tech titans were drafted in to help out. Alibaba, Chinese giant online retailer began developing a project called "City Brain" for the new Special Economic Zone, planned 60 miles southwest of Beijing by applying their experience from the city of Hangzhou. (See Case Study ET City Brain).

This cold war is taking Chinese and American tech sectors further apart from each other. This situation starves both sides as they are fuelled heavily by the profits and engineering and software talent. Working apart in secrecy and isolation triggers dangers and the risk that one side could surprise the other with a decisive strategic breakthrough in AGI and quantum computing.

* "If AlphaGo was China's Sputnik moment, the government's AI plan was like President John F. Kennedy's landmark speech calling for America to land a man on the moon," Kai-Fu Lee writes in his new book, AI Superpowers

CASE STUDY:

Zuckerberg hearing Platform to State liaisons and 'OR ELSE' rhetoric

When faced with data infringement and Facebook transparency regulations in the US Congress hearing in the wake of the Cambridge Analytica scandal, Mark Zuckerberg arguably defended himself with a single point. When senator Orrin Hatch asked him to outline legislature changes that if implemented would prevent such situations happening again, Zuckerberg strung together several points leading to the punch line: '…is just about enabling innovation. […]but we still need to make it so that American companies can innovate in those areas [referes to face recognition], OR ELSE we're going to fall behind Chinese competitors and others who have different regimes for different new features like that.'

He further tied Facebook's defence in relation to Russian bots scandal. Zuckerberg said: "So this is an arms race, right? I mean, they're going to keep on getting better at this [Russians], and we need to invest in keeping on getting better at this, too, which is why one of the things I mentioned before is we're going to have more than 20,000 people, by the end of this year, working on security and content review across the company."

What began as a hearing on behalf of data privacy of citizen/users turned into a question should a citizen patriotically relinquish their data to Facebook as a matter of national interest and security they would be championing. A kind of Patriot Act 2.0 perhaps?

Observing this case through the triple lens of empowerment, sovereignty and the relationship between public and private a new alignment of allegiances emerges. Empowerment is tied to the relationship between nation and the platform. In this case US endows power to Facebook. When we talk about sovereignty we talk about the platform reigning over the users. The public private struggle becomes a matter between a citizen and the nation.

SO WHICH OF THESE 'INSTITUTIONS' IS THE MOST TRUSTWORTHY?

How can US or anyone compete against China and its 'National Champions'*? Who have publicly been inaugurated as AI National Team? How is it possible to compete?

* 'National Champions' China has a big advantage over the US, as we move into the era of AI - its relationship with its largest companies.There, the private-sector AI innovation companies feel obliged to keep the states priorities in mind. Under Xi, Communist Party committees within companies have expanded. Last November, China tapped Baidu, Alibaba, Tencent, and iFlytek, a Chinese voice-recognition software company, as the inaugural members of its "AI National Team." The message was clear: Go forth, invest, and the government will ensure that your breakthroughs have a market not just in China, but beyond.

CASE STUDY:

Cloud Walk Zimbabwe

As a part of Chinese Belt and Road strategy*, Chinese company Cloud Walks has reportedly signed an agreement with Zimbabwe government which is targeted around a questionable exchange. Zimbabwe would sell the database of the facial records of its citizens in exchange for Cloud Walk computer vision technology.

Chinese press reports 'The project will help the Zimbabwe government build a smart financial service network as well as introduce intelligent security applications at airports, railway stations and bus stations, reported by Chinese tech press.' This agreement is even more significant because it marks a first point of entry for Chinese AI in Africa.

Through this deal CloudWalks acquires a massive data resource which would improve their underlying algorithms. The fact that AI finds it more difficult to recognise faces with darker skin is an additional argument which helps us to understand the significance of this agreement and that which these kind of deals have in understanding the nature of AI colonialism which technologically less developed countries will be facing.

Because facial recognition in Africa faces an additional challenge of recognising darker skin a difficulty that Cloud Walk is trying to solve by developing 3 dimensional light technology not affected by skin colour or light, will effectively make Chinese computer vision technology more sophisticated.

In addition, by optimising cameras to better highlight darker skin tones, Chinese smartphone manufacturer Transsion became the top player in Africa's fast growing smartphone market. Shenzhen based Transsion, whose products are sold under different brands (Tecno, Itel, Infinix) controls 40% of African market. Furthermore Zimbabwe & China agreed on a strategic partnership of cooperation, which extends beyond pure tech. There are deals being made about mining, agriculture, road construction and tourism agreements.

By exposing and studying examples such as the case of CloudWalk Zimbabwe it is important to stress the issue of digital colonialism, perhaps even data prostitution?

If we are to maintain the idea of democracy in a time when software code can override the city's legal justice codes - is this something that can and should be voted upon? Especially when public data sold to propriety software company.

Rhetoric of complexity that can be more fully grasped by artificial intelligence + rhetoric of security + fetishisation of control: all used to exchange a software that promises to speed up bureaucratic processes for data that we can't ascribe a value to (because we don't know to what ends it will be used)

In these new types of power asymmetries - that derive from differences in epistemic comprehension of machine learning systems - what kind of institutions might emerge to govern algorithmic ethics and the exploitation of informational asymmetries?

* Belt and road Initiative (BRI) is a development strategy over land and sea adopted by the Chinese government involving infrastructure development in 152 countries and international organisations (with every continent except North America)

Future of Work

The prediction is that, as we have entered what is known as the fourth industrial revolution. By 2020, five million jobs will be lost to automation, yet that is arguably not the main question. What will be the future of work, how will we redefine what work is and how will we share the wealth?

On the other hand we are seeing that technology is creating jobs in the long run and that unemployment rates are not proportional to automation in totality. Yet it is easier to see jobs which are vanishing than to imagine the ones being created. The new jobs over the horizon are no consolation to the people across demographic, social and geographical space that will lose their jobs imminently.

There are two principal approaches to this ‘post work’ future, which in his prediction of the early ‘21st century John Maynard Keynes called ‘the age of leisure and abundance’. The first one is re-education and retraining and the second one is UBI - the universal basic income.

Universal basic income

Universal basic income (UBI) is a policy where every citizen gets money from the government on monthly bases when they come of age. UBI has a long standing history and it was almost implemented in the US several times, most recently in 1971, when it passed the House of Representatives but it failed in the congress. ‘The Roosevelt Institute found that adopting an annual $12,000 basic income for every adult U.S. citizen over the age of 18 would permanently grow the economy by 12.56-13.10 percent—or about $2.5 trillion by 2025—and it would increase the labor force by 4.5-4.7 million people. This is because putting money in people’s hands grows the economy, particularly when those people need the money and will spend it.’ Is report through Andrew Yang’s presidential election campaign 2020.

Re-education

In discussion around education in the age of the fourth industrial revolution the topics of Retraining programs comes up regularly. How to restructure the able working force after their jobs are taken by automated processes is indeed a great practical problem but also a question of political speculation. According the Andrew Yang’s pro UBI centred campaign for the 2020 presidential ellections retraining programs are a poor solution. The statistics show that they are not able to redistribute the workforce on a satisfactory level. In the US, Federal Program for displaced manufacturing workers was found to have 37% of enrolee workforce working in the field of their retraining. This is difficult because the retraining is usually done by a workforce past their prime and harder to hire, but also, taking into account the speed of technology, there are no guarantees that the ‘new job’ would not have been automised by the end of the retraining program.

CASE STUDY:

Cicada: Cryptocurrency as universal basic income (UBI)

One of the biggest critiques of implementation of the universal basic income is not so much the one of UBI being a burden of the economy or potential cause of inflation, but rather that it is free money in the hands of people who don't deserve it. Looking into how a blockchain technology could implement cryptocurrency UBI payments to everyone is outlined in a white paper called Cicada: A Distributed Direct Democracy and Decentralised Application Platform. In order to bring about distributed direct democracy (DDD), Cicada proposes a decentralised, people controlled universal ID, which they call HUID, or Human Unique Identifier, unique to every person. An 'info wallet' linked to HUID is tasked with keeping the control of personally identifying information (PII) to individuals by only sharing a small piece of their information via quickly generated sub-IDs. These would generate 'on demand' data packages with information required by a current transaction. This decentralised federated system would lower the need for storing data and as such increase the security of personal identifying information (PII).

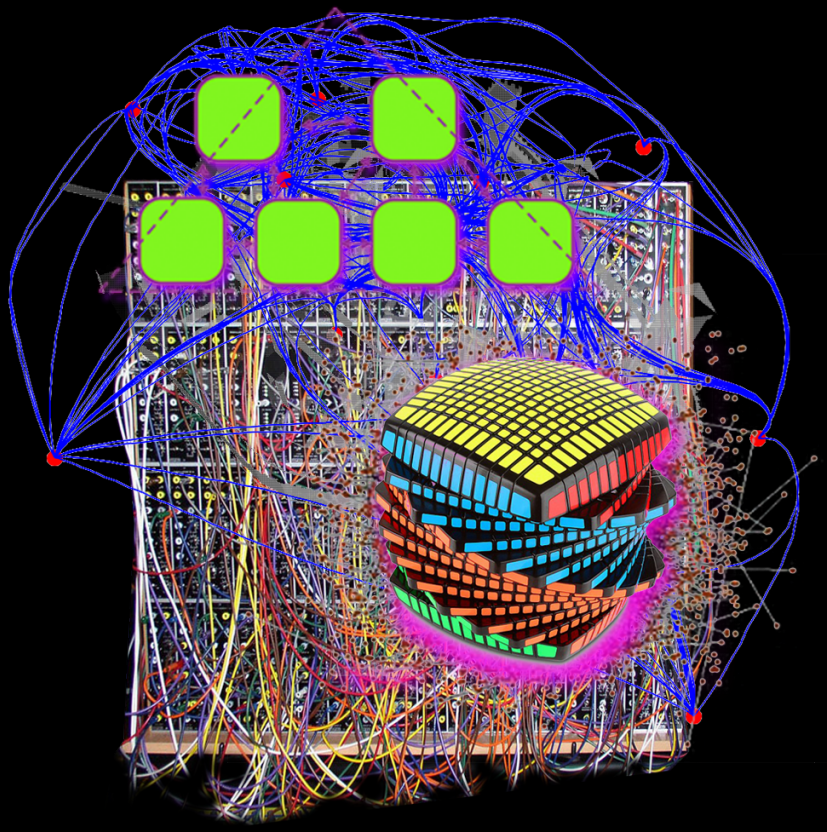
The new blockchain is completely immune to the centralisation that plagues Bitcoin mining, thanks to a unified client/miner that only allows one miner per person, linked anonymously to an HUID. Miners are randomly drafted into built-in pools, so everyone contributes and nobody dominates, but the system remains secure through a Distributed Proof of Work (DPoW). In this system UBI becomes a side effect. It is essentially payment for securing and running the system.

LICENSING AFFINITIES

What authoritative influence do various stakeholders have over intersecting infrastructural components (e.g. data, software, hardware, telecommunications infrastructures)? How do these re-align new concentrations of informational affluence and informational peripheries?

How might these be distributed differently through decentralized models of ownership? What new types of partner agglomerations and agreements form?

TECHNOLOGICAL DECISIONISM



How do varying degrees of automated decision-making restructure institutional authority?

How do augmented logics of reasoning address the errors and indeterminacy in complex systems?

CASE STUDY:

ET CITY BRAIN

The cloud lands differently in China; in a context where cultural attitudes towards AI manifest in stronger supportive alliances between governments and private companies pursuing the development of AI technologies, it is especially interesting to understand the role of a private company utilizing its headquarter city as a laboratory to test forms, methods, and tools of AI governance.

At Alibaba's 2018 Computing Conference in Huangzhou, Dr. Hua Xiansheng starts by asking what security cameras and a group of blind people trying to describe an elephant have in common. The elephant survey is used to frame Alibaba's recently launched "City Brain" venture which aggregates data from cameras, in combination with facial and voice recognition, in order to support an AI driven urban-traffic management system. The City Brain promises to provide the apparatus that will enable a complete and comprehensive understanding of the elephant, that the city's multiple sensors and inhabitants can only currently grasp a partial, subjective view of.

Much can be said about the rhetoric used to market ET City Brain; the city can only have a comprehensive overview of itself through a central decision-making system. Not only perpetuating the fetishization of control rooms (the fantasy of control in seemingly increasingly complex environments), it is particularly important to note how **the language of intelligence is always necessarily tied to a language of crisis** (whether financial, ecological, or security) (Halpern et al, 2017). The projection of a perpetual state of crisis (and the destruction of order and rationality) creates the condition to necessitate the insertion of a system that can model and make sense of complexity. The ET City Brain pilot project was initially deployed in Huangzhou in response to a ranking that listed the city as one of the most congested (a crisis of finance and reputation).

The partnership agreement between AliBaba and Hangzhou outlined that the city owned the data while the company held ownership of the software. **But the distinctions between public and private services is highly obscure when a proprietary software is running on public infrastructure to collect public data that may not remain in the public realm.** Although the city owns the data, this data is used to train Alibaba's machine learning algorithms, which can then be packaged and sold as a service elsewhere (the City Brain project is currently expanding to Kuala Lumpur for example). These obscurities become further entangled when the company partners with other private companies, such as Face++ (an image recognition start up), to acquire additional data sources that are said to improve the coordination between vehicle and pedestrian traffic. In these kinds of public - private agreements, it is important to also consider parallel private endeavors, such as AliBaba's push into smart retail which relies on face recognition to maximize profit*.

After having successfully run the pilot model, ET City Brain has expanded far beyond traffic services to emergency response, security, public transportation and vehicle dispatch, as well as parallel products such as ET Industrial Brain, ET Medical Brain, and ET Environment Brain (again always adopting a language of crisis). What started with the automated control of 104 traffic lights, the AI platform (which runs on Alibaba's cloud computing service), is permeating into an increasing number of urban services - necessarily raising the question of shifting agency in urban governance as software code increasingly overrides organizations in the city. In the first instance, AI not only automates traffic flows through the coordination of traffic lights but has also become responsible for the allocation of public transport. The evolution of the software from a traffic control system to a multi-dimensional venture managing a diverse set of urban interactions, illustrates that the **entities that can successfully model a problem space, effectively control that space. As this model generates new cores of informational affluence and peripheries it also raises the question of the shifting authoritative influence of city legislators and the proprietary software systems organizing the city, especially as software code begins to override policy.** Marking its increasing role in shaping the urban fabric and necessarily its policies, Alibaba Cloud aso recently launched the "urban gene pool" with the China Academy of Urban Planning & Design

to digitally interpret city structures on the cloud platform, and “realize a closed loop of urban planning and urban governance” (Alibaba Cloud, 2018). The company has not only expanded to manage increased exchanges within urban settings, but also to the geographies feeding the city through ventures such as ET Agriculture Brain**.

The extent to which decision making is automated by ET City Brain, also raises questions about shifting forms of agency. In some aspects, such as the control of traffic lights, decisions are fully automated. In other cases, such as accident management, the software presents operators with a series of options indicating what it evaluates are the areas of highest concerns. In this kind of public-private relationship, where the dependency on the software increases (without a parallel increase in the literacy of how or why certain situations are considered more pertinent than others), the city agency is placed in an increasingly submissive position to the corporation. City agencies may also fall into passive complacency. And as the corporation continues to market a product that promises greater control of the city in totality and in real-time, the imperative of technological decisionism - which values the speed and clarity of a decision over other factors - continues to perpetuate (Parisi, 2017). As software plays an increasing role in directing attention towards specific urban conditions over others - shaping both attention and awareness of the city - the methods and goals of decision-making in the city are also completely transformed.

How then do existing governing institutions formulate effective policies around artificial intelligence, especially in a context where those who use, implement, and adopt the software have little knowledge of how it works? To what extent does imagination shape protocols? Who gets to shape that imagination?

* The company has also explicitly announced plans to use the computing platform to cover areas that will be of interest to enterprises, startups, entrepreneurs and academic and research institutions. At the same summit, they also announced plans to move all their businesses to cloud servers and to help tech companies migrate basic infrastructure for IT to the cloud. Alibaba’s cloud computing arm has the largest share of the Chinese cloud computing market, with its total market share greater than the sum total of the next eight biggest cloud computing players.

** As 43% of China’s population lives in rural areas, the software has also expanded to the agricultural sector. ET Agricultural Brain customizes fertilization and irrigation, and has also partnered with pig farming corporation Dekon Group and pig feed supplier Tequ Group, to apply ET Agricultural Brain to pig farming.

GAMIFIED GOVERMENTALITY

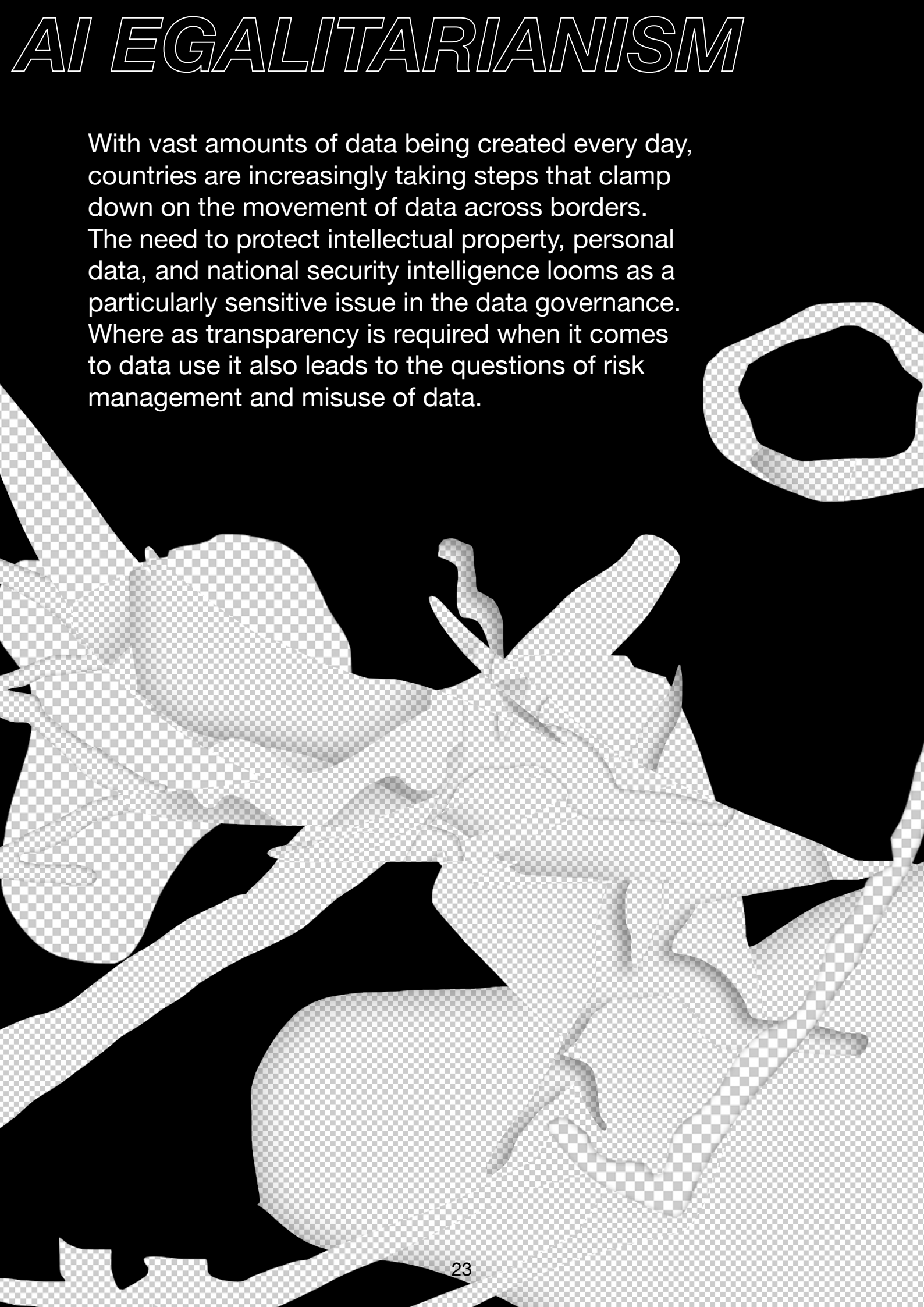
"[G]overnance refers [. . .] to all processes of governing, whether undertaken by a government, a market, or network, whether over a family, tribe, formal or informal organization, or territory, and whether through laws, norms, power, or language. Governance differs from government in that it focuses less on the state and its institutions and more on social practices and activities. (Bevir 2012, 1)"

What new behavioural norms become instantiated through regulation by AI?

The unprecedented scope of data collection and real-time monitoring, diversify the capacities of enforcement to extend beyond more traditional forms of formal legislation (penalty model). In regimes of gamified governmentality, positive reinforcement can transform behaviours without having to appeal to all possible attitudes, and can thereby circumvent reason. This subsumption of play under logics of incentivization extends the capacities for AI to govern knowledge production. This can either amplify positive feedback loops (catalyzing polarized states) or stabilize extremities through the interference of negative feedback loops.

AI EGALITARIANISM

With vast amounts of data being created every day, countries are increasingly taking steps that clamp down on the movement of data across borders. The need to protect intellectual property, personal data, and national security intelligence looms as a particularly sensitive issue in the data governance. Where as transparency is required when it comes to data use it also leads to the questions of risk management and misuse of data.



CROSS / TRANS / INTER - OPERABILITY:

The lack of durable global norms or standards for data governance, privacy and AI based on strong laws and robust enforcement leads to lack of transparency, no accountability and restricted open commerce. To remove barriers to cross-border data flows, the global community needs to respond with a framework that addresses legitimate concerns of privacy and security.

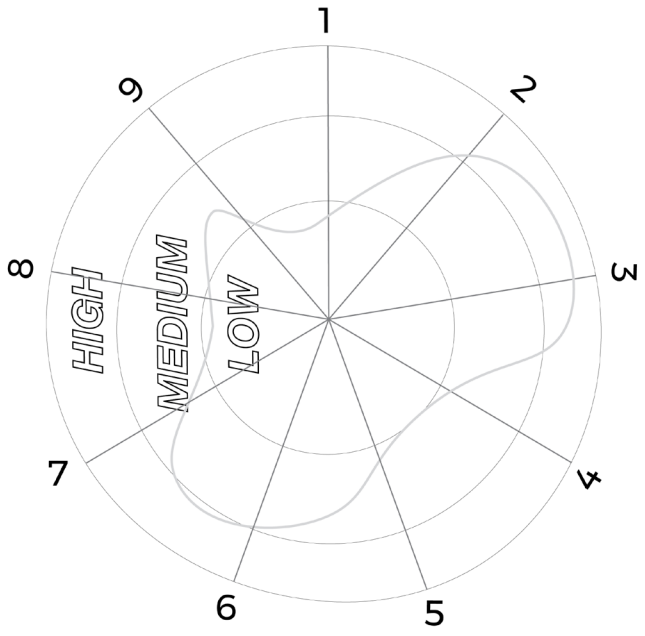
Conclusions

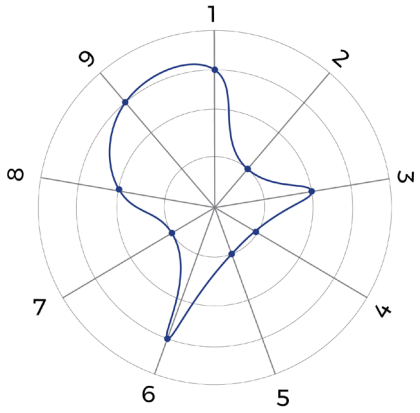
To conclude, we examined a number of white papers against the new categories generated through our research and mapped the degree of attention given to each category between the gradient of low - high. We were able to compare a selection of cities, corporations, states and associations using diagrams that highlight the focus of one compared to the other.

By conducting two parallel adversarial research, we sought to expose the gaps but also the unusual elements pertaining to the current discourse on AI governance and governance of AI.

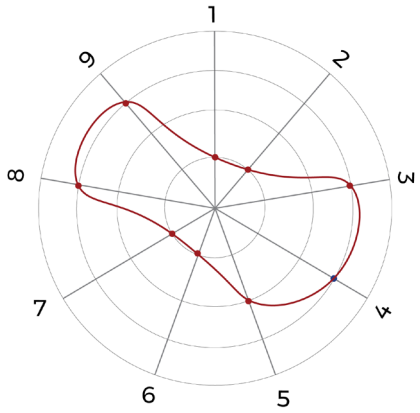
Categories:

1.Rebiased
2.User - Citizen
3.AI Allegiance
4.Future of Work
5.Lisence Affinities
6.Technological Decionism
7.Gamified Governmentality
8.AI Egalitarianism
9.Cross-Trans-Inter Operability

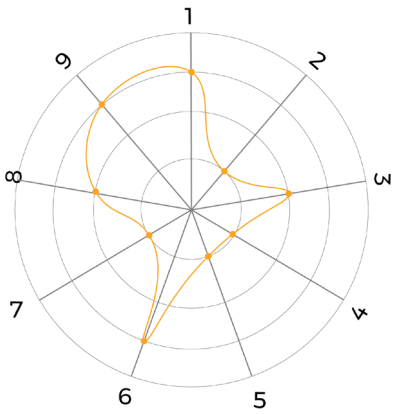




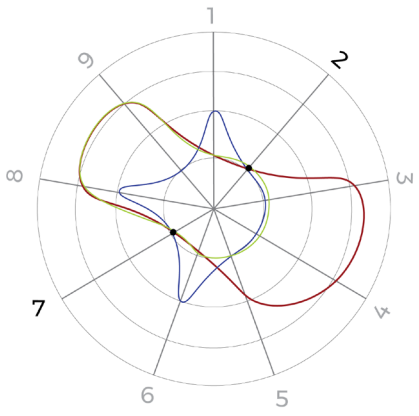
Google



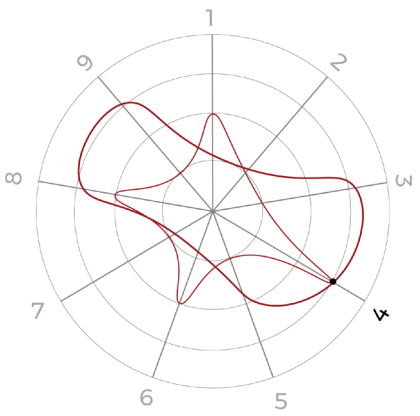
China



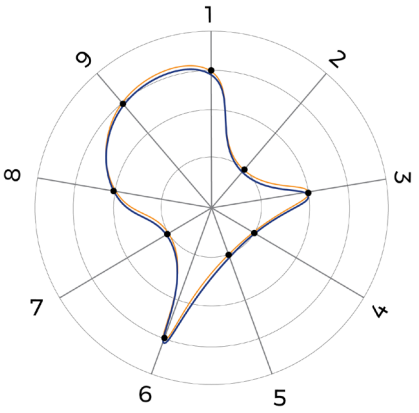
Dubai



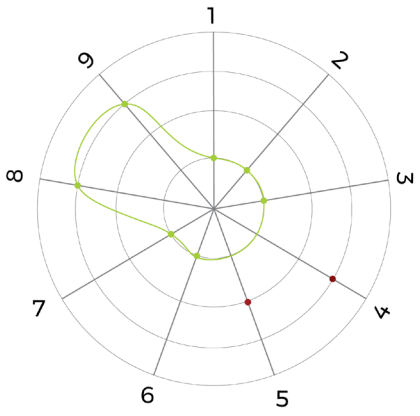
China.Microsoft. ASEAN



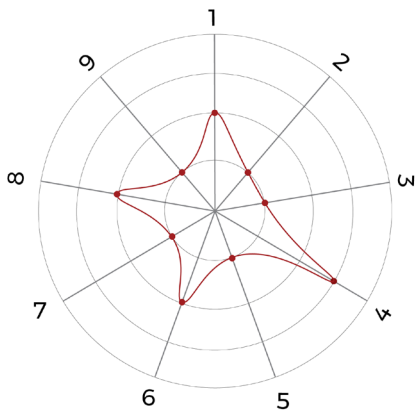
China. U.S.



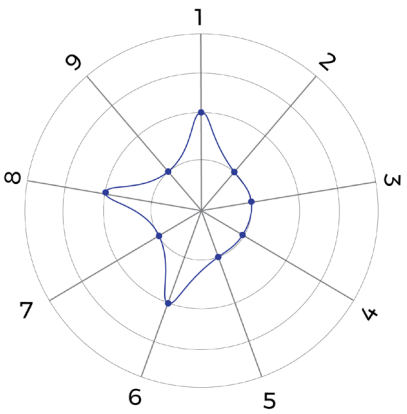
Google. Dubai



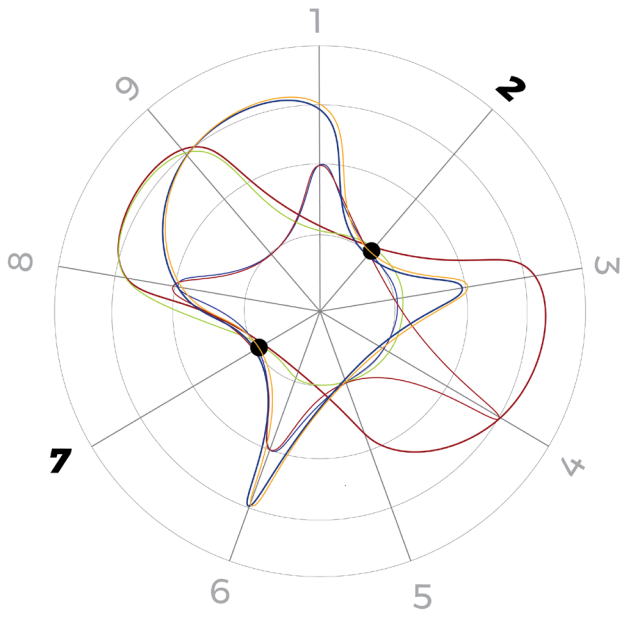
ASEAN



USA



Microsoft



Some pertinent findings include:

- Google and Dubai have discussed quite similar areas of concern in their white papers.
- India's position to make AI Garage. While Germany's white paper on AI also refers to an AI Garage, according to India's white paper, it plans to position itself in the region by hosting to an AI garage for the south asian.
- Google is one of the few that makes mention regarding its position on human-AI collaboration.
- Barely any white papers explicitly mention the use of AI for military purposes.

Greater efforts towards ongoing and comprehensive overview and analysis of white papers drafted by different stakeholders beyond nation states and industry leaders (including affinity groups, marginalized groups, civil society and others) can provide a comprehensive outline of the state of AI governance globally and from multiple perspectives, and ensure a greater degree of representational accuracy.

As nation and industry leaders are rushing to draft white papers in order to position themselves in the AI governance race, it is important to ensure coherence and alignment in the technological, political and institutional frameworks in order reduce devising and antagonistic norms and leverage the opportunities brought on by AI.

At this moment, AI is already an integral part of our systems of governance and its increasing capabilities will only play a greater role in our decision-making processes. The broader questions lie ultimately in how the governance of AI will itself be governed and how this will begin to reshape and challenge the geopolitical landscape.

REFERENCES

AI Nationalism [WWW Document], n.d. . Ian Hogarth. URL https://www.ianhogarth.com/blog/2018/6/13/ai-nationalism (accessed 4.24.19).

AIs should have the same ethical protections as animals – John Basl & Eric Schwitzgebel | Aeon Ideas [WWW Document], n.d. . Aeon. URL https://aeon.co/ideas/ais-should-have-the-same-ethical-protections-as-animals (accessed 4.27.19).

Algorithmic Accountability Policy Toolkit, 2018. . AI Now Institute.

Algorithms of Oppression, n.d. . NYU Press. URL https://nyupress.org/9781479837243/algorithms-of-oppression (accessed 4.25.19).

Ananny, M., Crawford, K., 2018. Seeing without knowing: Limitations of the transparency ideal and its application to algorithmic accountability. New Media & Society 20, 973–989. https://doi.org/10.1177/1461444816676645

Anatomy of an AI System [WWW Document], n.d. . Anatomy of an AI System. URL http://www.anatomyof.ai (accessed 4.24.19).

Bartlett, R., Morse, A., Stanton, R., Wallace, N., n.d. Consumer-Lending Discrimination in the Era of FinTech 44.

Barton, D., Woetzel, J., Seong, J., Tian, Q., n.d. DISCUSSION PAPER PRESENTED AT THE 2017 CHINA DEVELOPMENT FORUM 20.

Beall, A., 2018. In China, Alibaba's data-hungry AI is controlling (and watching) cities. Wired UK.

Bellamy, R.K.E., Dey, K., Hind, M., Hoffman, S.C., Houde, S., Kannan, K., Lohia, P., Martino, J., Mehta, S., Mojsilovic, A., Nagar, S., Ramamurthy, K.N., Richards, J., Saha, D., Sattigeri, P., Singh, M., Varshney, K.R., Zhang, Y., 2018. AI Fairness 360: An Extensible Toolkit for Detecting, Understanding, and Mitigating Unwanted Algorithmic Bias. arXiv:1810.01943 [cs].

Bevir, Mark. 2012. Governance: A Very Short Introduction. Oxford: Oxford University Press.

Bown, A., n.d. Algorithmic Control and the Revolution of Desire [WWW Document]. ROAR Magazine. URL https://roarmag.org/magazine/algorithmic-control-smartphone-internet-apps/ (accessed 4.24.19).

Bratton, B., 2018. For You / For You Not: On Representation and AI. Size Matters! (De) Growth of the 21st Century Art Museum,.

Bratton, B., 2017. Geographies of Sensitive Matter: On Artifcial Intelligence at Urban Scale.

Bratton, B., 2015a. Outing A.I.: Beyond the Turing Test. Alleys of Your Mind: Augmented Intellligence and Its Traumas, ed. Matteo Pasquinelli 69–80.

Bratton, B., 2015b. Outing Artificial Intelligence: Reckoning with Turing Test. Meson Press Alleys of Your Mind: Augmented Intellligence and Its Traumas, 69–80. https://doi.org/10.14619/014

Brauneis, R., Goodman, E.P., 2017. Algorithmic Transparency for the Smart City (SSRN Scholarly Paper No. ID 3012499). Social Science Research Network, Rochester, NY.

Bridle, J., 2018. New dark age: technology, knowledge and the end of the future. Verso, London ; Brooklyn, NY.

Canada's use of artificial intelligence in immigration could lead to break of human rights: study - National | Globalnews.ca [WWW Document], n.d. URL https://globalnews.ca/news/4487724/canada-artificial-intelligence-human-rights/ (accessed 4.24.19).

Chalabi, M., 2016. Weapons of Math Destruction: Cathy O'Neil adds up the damage of algorithms. The Guardian.

China_AI_development_report_2018.pdf, n.d.

Dafoe, A., 2018. AI Governance: A Research Agenda. Future of Humanity Institute.

Danaher, J., 2016. The Threat of Algocracy: Reality, Resistance and Accommodation. Philosophy & Technology 29. https://doi.org/10.1007/s13347-015-0211-1

Digital Earth, 2019. . Wikipedia.

Dimmer, C., Solomon, E.G., Morris, B., n.d. 1am–5am: Tokyo, Urban Rhythms and The Politics of Train Schedules. Scapegoat Night, 6.

Doctoroff, D.L., 2016. Reimagining cities from the internet up. Sidewalk Talk. URL https://medium.com/sidewalk-talk/reimagining-cities-from-the-internet-up-5923d6be63ba#.6nxqrphuc (accessed 4.30.19).

DOD-AI-STRATEGY-FACT-SHEET.PDF, n.d.

Dougherty, C., 2015. Google Photos Mistakenly Labels Black People "Gorillas." Bits Blog. URL https://bits.blogs.nytimes.com/2015/07/01/google-photos-mistakenly-labels-black-people-gorillas/ (accessed 4.25.19).

Douglas, L., 2017. AI is not just learning our biases; it is amplifying them. Medium. URL https://medium.com/@laurahelendouglas/ai-is-not-just-learning-our-biases-it-is-amplifying-them-4d0dee75931d (accessed 4.29.19).

Dutton, T., 2018. An Overview of National AI Strategies. Politics + AI. URL https://medium.com/politics-ai/an-overview-of-national-ai-strategies-2a70ec6edfd (accessed 4.24.19).

Eden Medina, n.d. Cybernetic Revolutionaries: Technology and Politics in Allende's Chile. MIT Press.

EU AI Strategy COM-2018-237-F1-EN-MAIN-PART-1.pdf, n.d.

Eurasia Group | Home [WWW Document], n.d. URL https://www.eurasiagroup.net/ (accessed 4.25.19).

European Commission - PRESS RELEASES - Press release - Member States and Commission to work together to boost artificial intelligence "made in Europe" [WWW Document], n.d. URL http://europa.eu/rapid/press-release_IP-18-6689_en.htm (accessed 4.24.19).

Executive Order on Maintaining American Leadership in Artificial Intelligence The White House.pdf, n.d.

Fefegha, A., 2018. Racial Bias and Gender Bias Examples in AI systems. The Comuzi Journal. URL https://medium.com/thoughts-and-reflections/racial-bias-and-gender-bias-examples-in-ai-systems-7211e4c166a1 (accessed 4.24.19).

FHI, F. of H.I.-, n.d. Future of Humanity Institute [WWW Document]. The Future of Humanity Institute. URL http://www.fhi.ox.ac.uk/ (accessed 5.1.19).

From territorial to functional sovereignty: the case of Amazon [WWW Document], n.d. . openDemocracy. URL https://www.opendemocracy.net/en/digitaliberties/from-territorial-to-functional-sovereignty-case-of-amazon/ (accessed 4.28.19).

Full Translation: China's "New Generation Artificial Intelligence Development Plan" (2017) [WWW Document], n.d. . New America. URL https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/ (accessed 4.24.19).

Garcia, M., 2016. Racist in the Machine: The Disturbing Implications of Algorithmic Bias. World Policy Journal 33, 111–117.

Governments' use of AI in immigration and refugee system needs oversight [WWW Document], n.d. . Policy Options. URL http://policyoptions.irpp.org/magazines/october-2018/governments-use-of-ai-in-immigration-and-refugee-system-needs-oversight/ (accessed 4.24.19).

Halpern, O., Mitchell, R., Geoghegan, B.D., 2017. The Smartness Mandate: Notes toward a Critique. Grey Room 68, 106–129. https://doi.org/10.1162/GREY_a_00221

Hoffmann, A.L., 2018. Data Violence and How Bad Engineering Choices Can Damage Society [WWW Document]. Medium. URL https://medium.com/s/story/data-violence-and-how-bad-engineering-choices-can-damage-society-39e44150e1d4 (accessed 4.25.19).

How will artificial intelligence transform the cities? [WWW Document], n.d. . ResearchGate. URL https://www.researchgate.net/post/How_will_artificial_intelligence_transform_the_cities (accessed 4.28.19).

Hu, T.-H., 2015. A prehistory of the cloud. The MIT Press, Cambridge, Massachusetts.

Hughes, R., 2015. The Internet of politicised 'things': urbanisation, citizenship, and the hacking of New York 'innovation' City. Interstices: Journal of Architecture and Related Arts. https://doi.org/10.24135/ijara.v0i0.488

Hui, Y., n.d. An Essay in Cosmotechnics 173.

Interactive TL [WWW Document], n.d. URL https://scout-prod.mybluemix.net/ (accessed 4.25.19).

Internet of things, 2019. . Wikipedia.

Jackie Wang: Ghosts of the Civil Dead [WWW Document], n.d. . Versobooks.com. URL https://www.versobooks.com/blogs/3695-jackie-wang-ghosts-of-the-civil-dead (accessed 4.23.19).

Keith Peiffer, 2013. Mass Intimacy: Consumer Design by and for Dividuals. Scapegoat, Excess 5, 294–305.

Keyes, O., n.d. Counting the Countless [WWW Document]. URL https://ironholds.org/counting-writeup/ (accessed 4.25.19).

Knockri I AI Video Recruiting [WWW Document], n.d. . Knockri I AI Video Recruiting. URL https://www.knockri.com (accessed 4.25.19).

Kobie, N., 2019. The complicated truth about China's social credit system. Wired UK.

Lek, L., 2016. Sinofuturism (1839 - 2046 AD).

Levin, S., 2019. "Bias deep inside the code": the problem with AI "ethics" in Silicon Valley. The Guardian.

Levin, S., 2017. LGBT groups denounce "dangerous" AI that uses your face to guess sexuality. The Guardian.

Listed books - Google Drive [WWW Document], n.d. URL https://drive.google.com/drive/u/1/folders/1GYP4akJwvT_IDOwMusokry7r7D_EZAQI (accessed 4.24.19).

Mackay, R., Aanessian, A. (Eds.), 2017. Accelerate: the accelerationist reader, Second edition. ed. Urbanomic Media Ltd, Falmouth, UK.

Mathias Fuchs, Fizek, S., Ruffino, P., Schrape, N. (Eds.), 2014. Rethinking Gamification. Meson Press.

Mp, H.K.A., n.d. AUSTRALIA'S TECH FUTURE 52.

Myers West, S., Whittaker, M., Crawford, K., 2019. DISCRIMINATING SYSTEMS Gender, Race, and Power in AI. AI Now Institute.

Ned Rossiter, 2016. Software, Infrastructure, Labor: A Media Theory of Logistical Nightmares. Routledge, New York.

New Knowledge | The Disinformation Report [WWW Document], n.d. URL /articles/the-disinformation-report/ (accessed 4.23.19).

Newco Shift | This Is How Amazon Loses [WWW Document], 2018. . Newco Shift. URL https://shift.newco.co/2018/10/10/this-is-how-amazon-loses/ (accessed 4.28.19).

Nick Srnicek, 2017. Platform Capitalism. Polity Press, Cambridge, UK.

Parisi, Luciana, 2017. Reprogramming Decisionism. URL

Parisi, Luciana, 2017. Reprogramming Decisionism. URL

https://www.e-flux.com/journal/85/155472/reprogramming-decisionism/

perspectives-on-issues-in-ai-governance.pdf, n.d.

Plantin, J.-C., Seta, G. de, n.d. WeChat as infrastructure: the techno-nationalist shaping of Chinese digital platforms. Chinese Journal of Communication 1–17.

Politics + AI Reading List [WWW Document], n.d. . Google Docs. URL https://docs.google.com/document/d/1pre7zl03nVmAX3KA_S5OCqJC9op99rDxWOpGdcfeoYo/edit?usp=embed_facebook (accessed 4.25.19).

Project Zero, 2019. . Wikipedia.

Rosen, C., 2012. The Machine and the Ghost. The New Republic

Samuel, S., 2019. Some AI just shouldn't exist [WWW Document]. Vox. URL https://www.vox.com/future-perfect/2019/4/19/18412674/ai-bias-facial-recognition-black-gay-transgender (accessed 4.25.19).

Scott, J.C., 1998. Seeing like a state: how certain schemes to improve the human condition have failed, Yale agrarian studies. Yale University Press, New Haven.

Shadowen, A.N., n.d. Ethics and Bias in Machine Learning: A Technical Study of What Makes Us "Good" 24.

Shaw, J., Mark Graham, 2017. An Informational Right to the City? Code, Content, Control, and the Urbanization of Information. Antipode 00, 1–21. https://doi.org/10.1111

Smulders, C.O., Ghebreab, S., n.d. TOWARDS UNBIASED ARTIFICIAL INTELLIGENCE: LITERARY REVIEW OF DEBIASING TECHNIQUES.

Strelka Institute/Институт Стрелка, n.d. Bruce Sterling. Lecture "The epic struggle of the internet of things."

SUMMARY-OF-DOD-AI-STRATEGY.PDF, n.d.

Technological-Sovereignty-Green-Paper-No-3.pdf, n.d.

The Administration’s Report on the Future of Artificial Intelligence [WWW Document], 2016. . whitehouse.gov. URL https://obamawhitehouse.archives.gov/blog/2016/10/12/administrations-report-future-artificial-intelligence (accessed 4.24.19).

The Citizen’s Perspective on the Use of AI in Government [WWW Document], n.d. . https://www.bcg.com. URL https://www.bcg.com/publications/2019/citizen-perspective-use-artificial-intelligence-government-digital-benchmarking.aspx (accessed 4.25.19).

The Stack, n.d.Urbi, J., 2018. Some transgender drivers are being kicked off Uber’s app [WWW Document]. URL https://www.cnbc.com/2018/08/08/transgender-uber-driver-suspended-tech-oversight-facial-recognition.html (accessed 4.25.19).

Weatherby, L., n.d. Delete Your Account: On the Theory of Platform Capitalism [WWW Document]. Los Angeles Review of Books. URL https://lareviewofbooks.org/article/delete-your-account-on-the-theory-of-platform-capitalism/ (accessed 4.23.19).

Какой будет “Стратегия России в области искусственного интеллекта” [WWW Document], n.d. . itWeek. URL https://www.itweek.ru/ai/article/detail.php?ID=205672 (accessed 4.23.19).

Карта искусственного интеллекта России v1.15 [WWW Document], n.d. URL http://airussia.online/ (accessed 4.24.19).