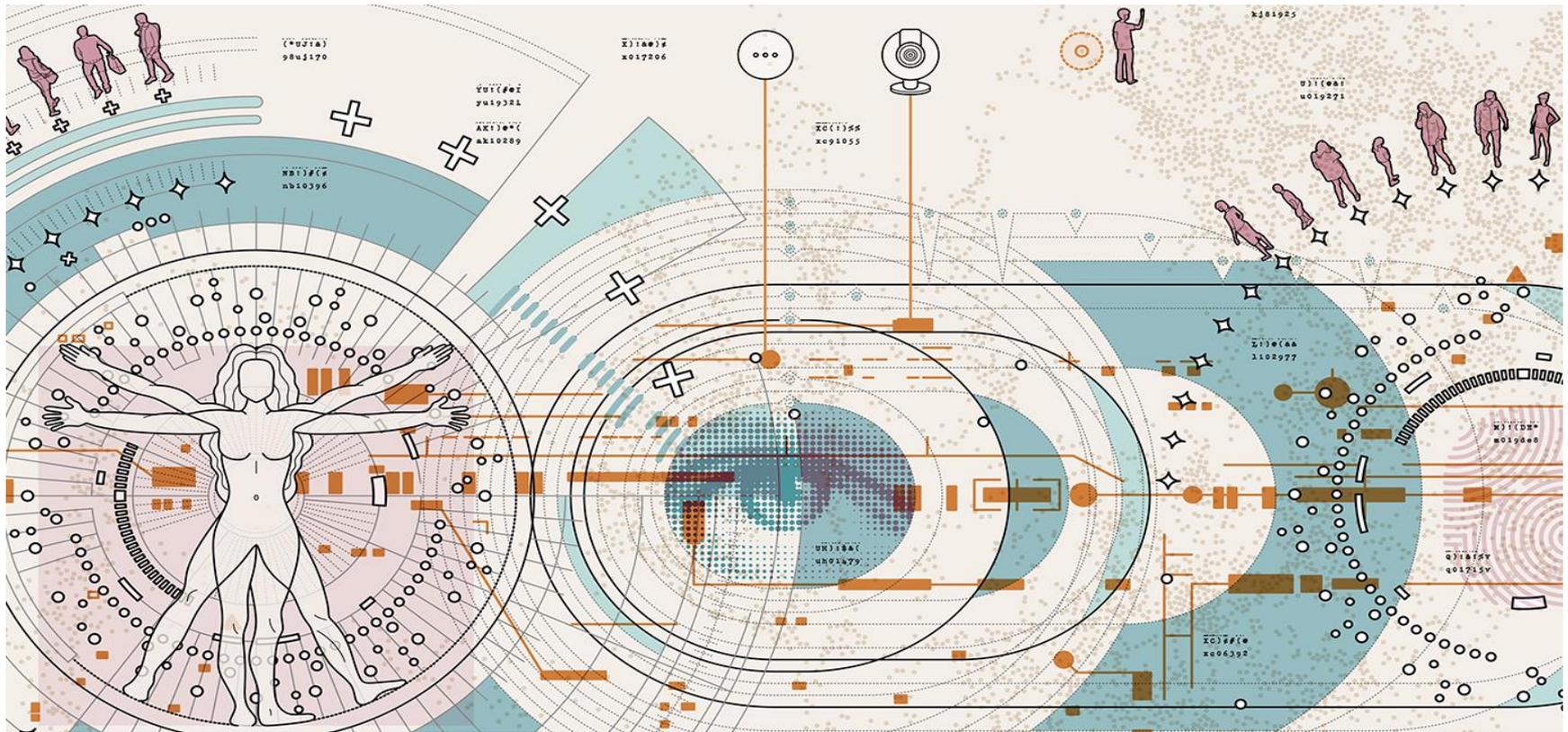


# Data stewards in service of Artificial Intelligence: Reimagining AI futures towards a participatory paradigm for technological innovation



PRESENTED BY: SOUJANYA SRIDHARAN AND SHEFALI GIRISH

# Agenda

1. Introduction and fissures in the digital economy
2. Reimagining AI futures
3. Data stewards in service of AI
4. Functions and practices of a data steward
5. Way forward



***"The successful development and deployment of AI systems hinges on access to data which is used to train models using various techniques. In a sense, availability, accessibility and quality of data are the primary drivers of the innovation potential of AI products and services."***

## WHY AI MATTERS



AI integration is considered the foundation of the Fourth Industrial Revolution



Marks the beginning of an age of innovation fueled by data – produced by individuals and communities



Digital footprints (data) and AI systems have transformed into determinants of human welfare and development



AI finds application across agriculture, climate change, finance, healthcare, law enforcement, among others

**Who has access to data, how it is shared and who benefits from its use remain unanswered**

## FISSURES IN THE DIGITAL ECONOMY



### Power asymmetries in the data economy

- + Imbalance b/w individuals, communities and corporations, governments
- + Propels unilateral AI innovation that manifest as opaque, insulated AI 'black boxes'



### Policy and political economy of data

- + Extension of conventional modes of capital accumulation and rentiership in the data economy
- + Data producers held captive
- + Spurred investigations, demands for new regulation and redressal



### Limitations of privacy self management

- + Privacy model is blinkered, cookie-based consent is inadequate
- + Violates contextual integrity of privacy, affording few avenues to engage with downstream uses of data



### Algorithmic governance and accountability

- + Growing fears about lack of trust and transparency in AI systems
- + Absence of meaningful legislation to address harms arising from AI deployment

# Reimagining AI futures is critical to ensure respect for human rights is the lynchpin upon which emerging technologies, like AI, are founded on

## IMPORTANCE OF GUARDING AGAINST AI EXCEPTIONALISM

### SOCIO-POLITICAL RAMIFICATIONS OF AI



Research demonstrates that AI tools and technologies have disconcerting civil rights implications, amplifying discrimination, exclusion and even, human misery

### LIMITED OVERSIGHT OVER AI DESIGN AND USE



Contemporary AI ethics frameworks are hegemonic, inadequate and legally non-binding; risks treating issues in AI as narrow 'design flows' to be remedied by improved business practices, undermining systemic concerns in the process

### LACK OF DIVERSITY WITHIN AI COMMUNITY



Power imbalance between creators of AI systems and those who are impacted by it; ignores relationality and social context in producing AI – replicating long standing patterns of epistemic violence and bypasses dialogue from Global South

## OPPORTUNITIES

- *Institutional frameworks for AI regulation should adopt perspectives from procedural justice praxis*
- *Procedural justice hinges on four pillars: voice, respect, neutrality and trustworthiness*
- *Human input into the process of AI development and use is necessary to ensure future AI regulation is anchored in tenets of procedural justice*
- *Data intermediaries, specifically data stewards, are important conduits that can accelerate AI development through responsible practices*
- *Embedding data intermediaries within AI systems regulation is in line with the move from model-centric to data-centric approach*

***It is this paper's contention that embedding data stewardship - an approach to data governance which unlocks data for responsible use without compromising the agency of individuals and communities that produce the data - can go a long way in advancing AI innovation through safe, trustworthy and fair mechanisms.***

# Data stewardship is a viable alternative that unlocks data for responsible use while respecting rights of data producers

## Why data stewards?

- Adheres to **core tenets of procedural justice** through participatory governance mechanisms
- Serves the **needs of individuals and community** by negotiating data sharing agreements, ensuring that data use is limited to purpose, prevent harm and opens door for delegated consent.
- **Different governance mechanisms** in the form of data trusts, collaboratives, data cooperatives
- Bottom-up approaches ensures that the design and governance of stewards reflect the interest of the community and providing them with **agency to govern their data**
- Serves the **needs of data requesters** by providing anonymised, standardised datasets that **are amenable to use in AI development**
- **Ensure data accuracy, accessibility and quality**

## The need for participatory governance

- **Meaningful involvement** of people whose data are used or with which decisions are taken
- **Rights preserving**
- Improve **representation** of steward
- **Unlock the social and economic value** of data to empower the individuals and community
- Enable **people to define their data** and how they value it
- Enable people make **fundamental choices in tech architecture** balancing values whose importance cannot be otherwise incorporated
- **Reorienting power relationships** within the digital economy

## Use cases



Open Humans has a participatory approach to health research enabling members to be engaged throughout lifecycle of the process

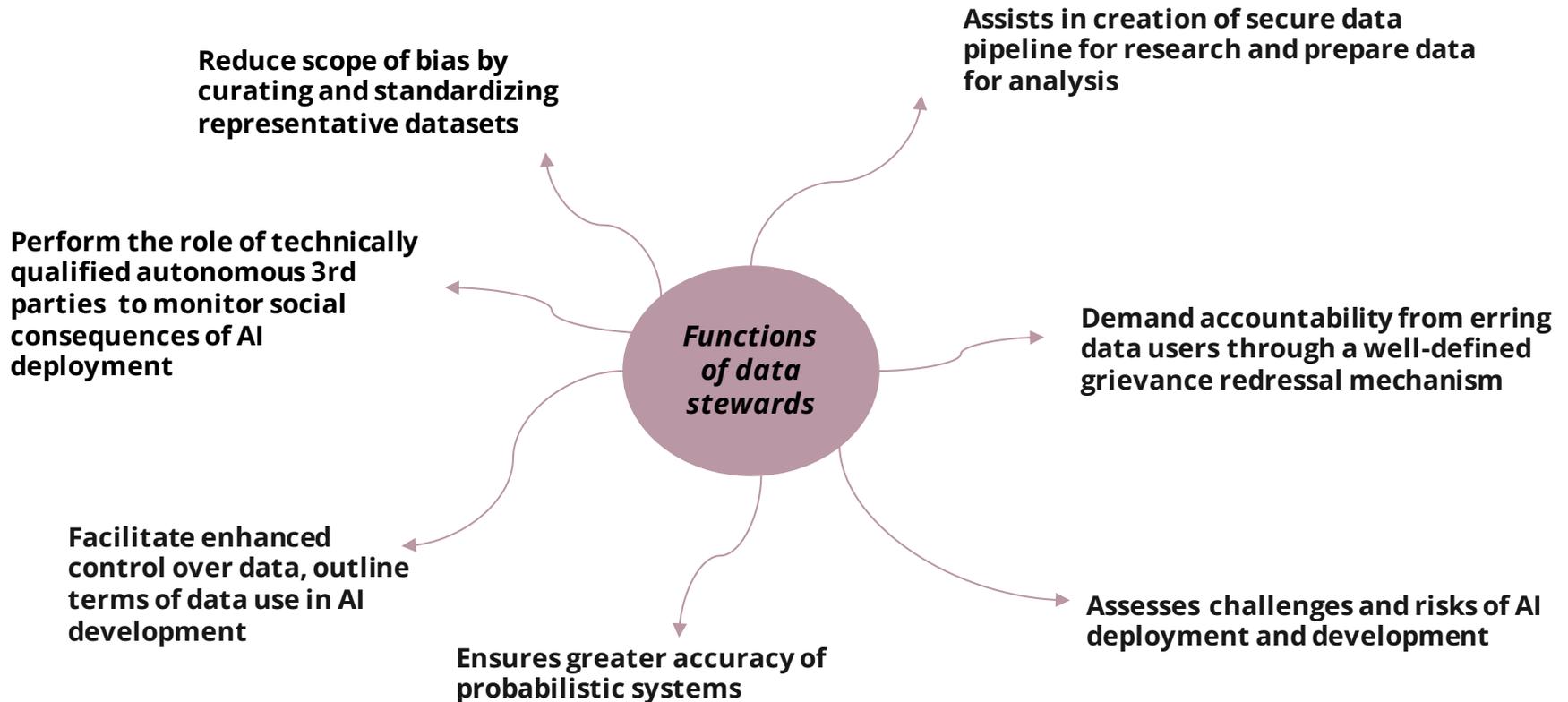


Data for Black Lives creates a framework of data governance that is sensitive to institutional discrimination, recognizing the marginalization experienced by Black communities

*At Aapti, we have developed tools such as stewardship mapper and navigator which may be useful for AI researchers and developers who want to explore rights-preserving mechanisms for data governance*

# Data stewardship acts as the perfect conduit to accelerate AI innovation without compromising agency of individuals

*Embedding data stewardship as core tenet of AI governance framework is indispensable to ensure that community consent and participation, privacy protection and broad-based public benefit from data use are the guiding imperatives for AI research development.*



*Data stewards such as Commonvoice and iNaturalist have the potential to remedy ills of existing methods of AI development, address the systemic concerns by communities first and recognising rights of individuals to govern their data*

# Truly reflexive, bottom-up praxis of policy making for AI regulation has now been made possible through the practices of data stewardship

1

**AI's data problem:** AI builders are disproportionately concerned with manipulating the models and/or techniques used to build these systems. Ignores a more fundamental artifact that AI systems are as reliable as the datasets underlying their development

2

**Participatory paradigms for AI innovation:** Models for data governance such as data stewardship are grounded in respect for data rights of communities, supply representative datasets to reduce scope of exclusion and bias in AI systems as well as monitor their use and deployment

3

**Functions fulfilled by data stewards:** Enhanced control over one's data, outlining the terms for data use in AI development and demand accountability from erring data users through mechanisms for grievance redressal; upholds community consent, participatory ethics and public benefit data use within AI development

4

**Policy impetus for data stewardship:** Data Governance Act calls on data intermediaries to play a key role in the digital economy and act as vehicles for information exchange; EU's AI Act calls for human oversight over AI systems performance; India's NPD framework calls for data trustees to manage community data

**Thank you**