

Stream title: “Ethical Algorithmic decision making: Leave no one behind”

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Background

Algorithmic decision making is increasingly being adopted by governments worldwide to streamline organizational processes, improve service delivery, and enhance decision-making in areas such as social welfare, healthcare, criminal justice, and public administration. The Algorithmic Decision Systems (ADS) leverage large datasets and advanced computational techniques, including artificial intelligence (AI) and machine learning (ML), to automate or support decision-making processes. While ADS offer significant potential to improve the efficiency and effectiveness of government services, they also raise critical ethical, social, and operational challenges that must be carefully addressed to ensure fairness, transparency, and inclusivity.

On a European and global level, several research initiatives and projects have been established to address these ethical challenges. The AI4GOV Horizon Project, for instance, is developing a Holistic Regulatory Framework aimed at ensuring the transparent, accountable, and fair implementation of AI-driven decision-making systems in governance. Similar efforts have been undertaken by the OECD's AI Principles, UNESCO's Recommendation on the Ethics of AI, and the Council of Europe's ongoing work on AI regulation. These frameworks emphasize a multidisciplinary approach to AI governance, integrating insights from law, technology, ethics, and public administration to develop mechanisms that safeguard against discrimination and exclusion. They also promote participatory governance models, ensuring that algorithmic decision-making aligns with democratic values and human rights principles.

Definition of algorithmic decision-making

ADS often rely on the analysis of large amounts of personal data to infer correlations or, more generally, to derive information deemed useful to make decisions. Human intervention in the decision-making may vary and may even be completely out of the loop in entirely automated systems. In many situations, the impact of the decision on people can be significant, such as on access to credit, employment, medical treatment, judicial sentences, among other things. Entrusting ADS to make or to influence such decisions raises a variety of different ethical, political, legal, or technical issues, where great care must be taken to analyse and address them correctly. If they are neglected, the expected benefits of these systems may be negated by the variety of risks for individuals (discrimination, unfair practices, loss of autonomy, etc.), the economy (unfair practices, limited access to markets, etc.), and society as a whole (manipulation, threat to democracy, etc.). The process typically includes data collection, algorithm design, data processing, and generating decisions or recommendations.

The role of ADS in Government Services

Governments are under constant pressure to deliver services more efficiently and equitably, often with limited resources. ADS can help address these challenges by automating routine tasks, optimizing resource allocation, and providing data-driven insights to inform policy decisions. For example, predictive analytics can be used to identify individuals at risk of unemployment or homelessness, enabling early intervention and targeted support (Eubanks, 2018). Similarly, algorithms can streamline the processing of social benefit applications, reducing administrative burdens and improving service delivery times (Zarsky, 2016).

However, the integration of ADS into government services is not without risks. The decisions made by these systems can have profound impacts on individuals' lives, particularly in areas such as social welfare, healthcare, and criminal justice. For instance, algorithms used to determine eligibility for social benefits or to allocate healthcare resources may inadvertently exclude vulnerable populations if the underlying data or design is biased (O'Neil, 2016). Similarly, predictive policing algorithms have been criticized for reinforcing racial and socioeconomic disparities, leading to over-policing in marginalized communities (Ferguson, 2017).

Positive Impacts of ADS in Government Services

- **Efficiency and Scalability:** ADS can process large volumes of data quickly, enabling governments to handle increasing demands for services without proportional increases in costs or staffing. For example, automated systems can expedite the processing of tax returns, benefit claims, or visa applications,

reducing wait times and improving citizen satisfaction (European Commission, 2021).

- **Consistency and Fairness:** By applying uniform criteria to decision-making, ADS can reduce variability and subjectivity in government processes. This can help ensure that individuals in similar circumstances receive similar treatment, promoting fairness and reducing the risk of human bias or error (Pasquale, 2015).
- **Data-Driven Policy Making:** ADS can provide governments with valuable insights into trends and patterns, enabling more informed and evidence-based policy decisions. For example, predictive analytics can help identify areas with high rates of unemployment or health disparities, guiding the allocation of resources and interventions (Zarsky, 2016).

Negative Impacts and Ethical Challenges

- **Bias and Discrimination:** One of the most significant risks associated with ADS is the potential for bias and discrimination. If the data used to train algorithms reflects historical inequalities or prejudices, the resulting decisions may perpetuate or exacerbate these biases. For example, algorithms used in criminal justice systems have been shown to disproportionately target minority groups, leading to unfair outcomes (O’Neil, 2016).
- **Opacity and Lack of Transparency:** Many ADS, particularly those based on complex machine learning models, operate as "black boxes," making it difficult to understand how decisions are made. This lack of transparency can undermine public trust and make it challenging to hold governments accountable for algorithmic decisions (Pasquale, 2015).
- **Impact on Vulnerable Populations:** ADS can have disproportionate impacts on marginalized or vulnerable populations, particularly if the data used to train the algorithms does not adequately represent these groups. For example, algorithms used to allocate social benefits may exclude individuals with non-traditional employment histories or those living in remote areas (Eubanks, 2018).
- **Erosion of Human Oversight:** The increasing reliance on ADS in government services raises concerns about the erosion of human oversight and discretion. While automation can improve efficiency, it is essential to ensure that critical decisions, particularly those affecting individuals' rights and well-being, remain subject to human review and intervention (Citron & Pasquale, 2014).

Regulation

To address these challenges, there is a growing need for robust regulatory frameworks and governance mechanisms to ensure the ethical and responsible use of ADS in government services. The European Union's proposed **AI Act** is a significant step in this

direction, emphasizing the importance of transparency, accountability, and fairness in the deployment of AI systems (European Commission, 2021). Governments must also engage with citizens and stakeholders to build public trust and ensure that ADS are designed and implemented in ways that promote inclusivity and equity.

Beyond the European Union's AI Act, multiple global initiatives are working toward ethical AI governance. The AI4GOV Horizon Project's Holistic Regulatory Framework provides a structured approach to governing AI in public services, emphasizing a balance between innovation and accountability. Additionally, the OECD's AI Principles highlight key tenets such as transparency, robustness, and human-centered AI governance, while UNESCO's guidelines promote ethical AI through global cooperation.

Furthermore, recent discussions in AI ethics propose Algorithmic Impact Assessments (AIA) as a standard tool for evaluating risks and biases before AI systems are deployed. Some jurisdictions, such as Canada and the United States, are experimenting with these assessments to ensure that algorithmic decision-making aligns with human rights and anti-discrimination laws. Incorporating these methodologies within existing regulatory frameworks can enhance accountability and prevent harm caused by automated decision-making.

Role of citizens, role of governance

Citizens play a crucial role in holding organizations and governments accountable for the ethical use of ADS. Public awareness and advocacy are essential for ensuring that algorithmic systems are designed and deployed in ways that promote fairness and inclusivity. At the same time, governance structures must be put in place to ensure that ADS are subject to rigorous oversight and that individuals have recourse when they are harmed by algorithmic decisions (Citron & Pasquale, 2014).

Stream objective & possible topics

This research stream will explore the **positive and negative impact of algorithmic decision making on the organisational processes of government services**. Participants will engage with critical questions on advocacy and resistance, strategies for mitigating algorithmic bias, and regulatory approaches to ensure AI-driven decision-making promotes inclusivity and fairness. The goal is to foster dialogue on actionable solutions to disrupt biases embedded in AI systems while advancing ethical and inclusive algorithmic practices.

Possible Topics to investigate:

- Best practices for designing, auditing, and deploying bias-resistant AI systems for decision making.
- Frameworks for ethical decision-making and fairness in algorithmic processes.
- How algorithmic decision-making can be harnessed to reduce inequities.
- Policies and frameworks for transparent and accountable AI.
- Exploring the intersection of technology, law, and ethics in algorithmic regulation.
- International and EU perspectives on algorithmic governance.

Stream Outcomes:

- Identifying key challenges and opportunities for addressing algorithmic biases in decision making.
- Formulating recommendations for regulatory policies and inclusive AI design.
- Fostering cross-disciplinary dialogue on the ethical implications of algorithmic decision-making.

Keywords

Algorithmic decision-making, AI, bias, inclusion, governance

Stream outline – 90'

1. **Welcome and Introduction (10 minutes):** Overview of stream objectives and outcomes, introduction of chairs and presenters.
2. **Paper Presentations (40 minutes):** Each presenter will be given some time to present their topic and accept questions.
3. **Open Discussion: "Bias Mapping & Research Directions" (25 minutes):** The objective is to facilitate a structured discussion on how algorithmic biases manifest in government services and explore research-based approaches to study and mitigate them.
4. **Panel Discussion: Challenges and Opportunities (10 minutes)**
 - Chairs and presenters discuss key takeaways from the presentations and the activity.
 - Opportunity for participants to ask broader questions and share insights.
5. **Closing Remarks and Next Steps (5 minutes)**

Submission and Publication Opportunities

We invite contributions that are empirical, theoretical, or methodological in nature, in the form of long abstracts or full papers. Selected works may be nominated for the best paper in our Stream and considered for publication in associated journals.

References

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