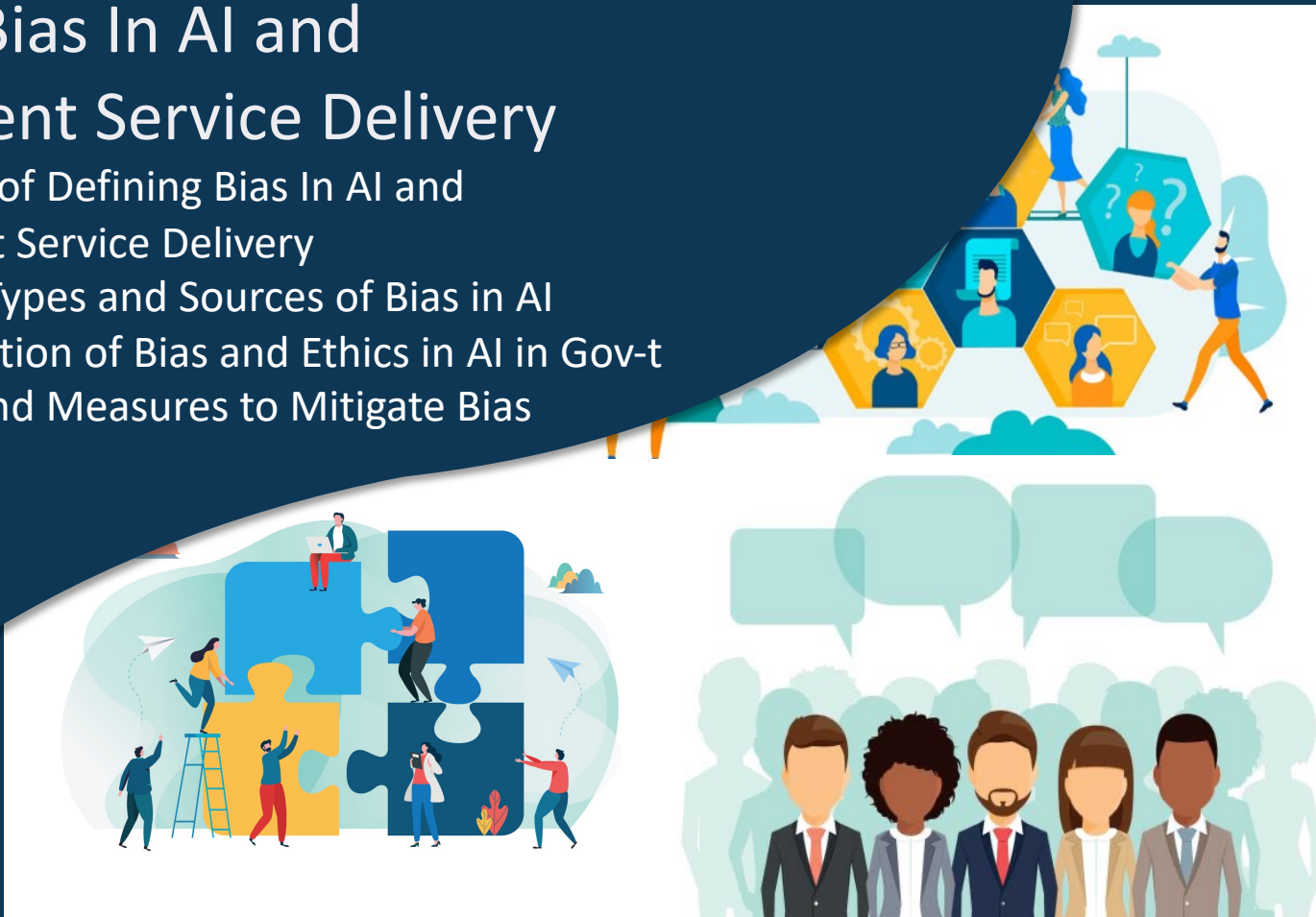


Defining Bias In AI and Government Service Delivery

- Importance of Defining Bias In AI and Government Service Delivery
- Identifying Types and Sources of Bias in AI
- The Intersection of Bias and Ethics in AI in Gov-t
- Strategies and Measures to Mitigate Bias



JOINT COUNCILS' EXECUTIVE MONTHLY REPORT

Developed by the Research Committee

August 2023

1. Importance of Defining Bias In AI and Government Service Delivery

Artificial Intelligence (AI) plays a vital role in modern government operations, enhancing efficiency and decision-making. However, unintentional biases in AI systems can lead to skewed results, affecting public trust and policy fairness. Understanding and defining these biases is essential to ensure ethical and transparent government service delivery, and to prevent systemic issues that could undermine democratic governance.

Biases in AI can disproportionately affect various segments of society, leading to discrimination and inequality. Clear definitions of biases are crucial to avoid economic disparities and ensure an equitable distribution of opportunities. Citizens' faith in the system depends on impartial and just practices.

AI's presence in government requires defining and regulating biases to comply with legal standards and human rights. Ambiguities can lead to legal conflicts, making clarity on bias definitions indispensable. Alignment with international norms and domestic laws is necessary for crafting fair AI applications.

Biases in AI-driven decisions can have far-reaching impacts, affecting resource allocation and fiscal policies. Adequate definitions provide the foundation for developing robust systems, devoid of prejudice, fostering innovation without sacrificing ethical considerations.

Global alignment on defining biases in AI promotes collaboration and uniformity in governmental practices. It enables the sharing of best practices, lessons learned, and standards, fostering international relations and joint efforts in promoting ethical AI.

Sources:

Medaglia, Rony, J. Ramon Gil-Garcia, and Theresa A. Pardo. "Artificial intelligence in government: Taking stock and moving forward." *Social Science Computer Review* 41, no. 1 (2023): 123-140.

Why Is This Report Important?

This report offers guidelines for policymakers, analyzing biases in AI within government service delivery and informing future policy for a just, unbiased approach to governance. It emphasizes engagement with stakeholders like technology experts, civil society organizations, and the public.

Through collaboration and dialogue, it supports the development of well-rounded, adaptable policies that consider diverse perspectives. This approach fosters collective ownership and resilience in unbiased AI for government services.

By defining biases and ensuring that AI systems reflect societal values, the report contributes to building public trust, making transparency and accountability concrete concepts

What is Covered in this Executive Report?

This report includes the following:

- Importance of Defining Bias In AI and Government Service Delivery
- Identifying Types and Sources of Bias in AI
- The Intersection of Bias and Ethics in AI within Government
- Strategies and Measures to Mitigate Bias
- Future Outlook: Opportunities, Challenges, and Recommendations

2. Identifying Types and Sources of Bias in AI

In an era where artificial intelligence permeates various aspects of government service delivery, identifying and understanding the types and sources of bias within AI systems becomes paramount. By laying out a clear understanding of these biases, we pave the way for more responsible and transparent AI integration within government functions.

Data-Driven Bias: Data used to train AI systems can often contain inherent biases, reflecting historical or societal inequalities. This inadvertently teaches the AI system to replicate these biases, leading to skewed decision-making.

Algorithmic Bias: The design of algorithms can favor certain outcomes over others, leading to a biased perspective. Understanding the mechanism behind algorithmic bias is essential for creating fair and transparent systems.

Cultural Bias: AI systems may inadvertently favor certain cultural norms and values over others, particularly if they are developed within a specific cultural context. This can lead to exclusionary practices and a lack of representation.

Sourcing Bias: The selection of data sources can influence the direction of the biases in AI. By understanding where the data comes from, we can make informed decisions to minimize bias.

Measurement Bias: The way certain aspects are measured and quantified can lead to biases. Ensuring objective and comprehensive metrics is crucial to maintaining fairness.

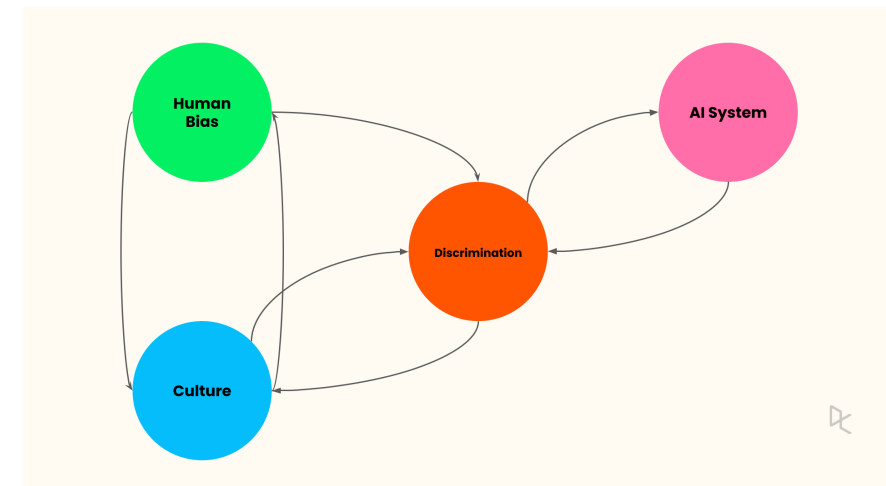
Confirmation Bias in Development: Developers' preconceived notions and beliefs can unconsciously be embedded within the AI system, causing it to favor certain viewpoints or outcomes. Awareness and training can help mitigate this.

Bias in User Interaction: Users' interaction with AI systems can lead to biased outcomes due to personal beliefs or behaviors. Monitoring and adjusting the system according to unbiased guidelines is key.

Legal and Regulatory Bias: Existing legal frameworks may inadvertently foster or permit biases. Comprehensive legal reform considering the nuances of AI can prevent this from happening.

Geographical Bias: AI developed in one region may not accurately represent other regions' values, norms, and needs. Diverse and global input can alleviate this form of bias.

Recognizing and understanding these biases is not merely an academic exercise; it's a crucial step in ensuring that AI systems within government services are aligned with democratic values and societal expectations. By acknowledging these biases, we equip ourselves to build AI systems that are not just intelligent but also ethical, fair, and just.



Sources: Schneider, Valerie. "Locked out by big data: how big data algorithms and machine learning may undermine housing justice." Colum. Hum. Rts. L. Rev. 52 (2020): 251.

3. The Intersection of Bias and Ethics in AI within Government

Ethical considerations in AI are paramount to government service delivery, and understanding how biases intersect with ethics enables more responsible and equitable implementations. A comprehensive approach to this intersection is vital to building systems that uphold human dignity and social justice.

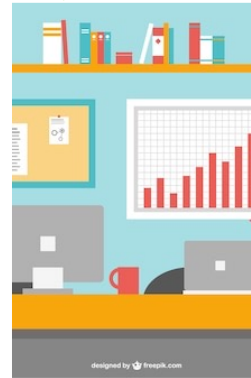
Ethical Principles and AI Bias

- Aligning AI systems with ethical principles like fairness, transparency, and accountability in the government context demands a detailed understanding of biases. This ensures policies and decisions adhere to democratic ideals while balancing technological innovation and ethical norms.
- Ethical guidelines transcend theory and require real-world implementation in areas like algorithm design and data selection. This intersection between bias and ethics creates a practical framework for responsible AI within the government, requiring dynamic and continual reassessment to stay relevant and effective.



Human Rights Considerations

- Biases in AI can violate fundamental human rights like equality and non-discrimination, making it crucial to recognize and address them, especially in sectors like healthcare, law enforcement, and social welfare within government service delivery.
- Aligning AI with human rights ensures equal service to all citizens. International human rights standards provide a strong framework for AI in government, fostering universal acceptance and setting a global benchmark for ethical implementations. This international approach enhances the legitimacy and effectiveness of AI in governmental contexts.



Social Contract and Citizen Engagement

- The social contract between the government and citizens depends on trust, which biases in AI can undermine. An ethical, unbiased approach to AI strengthens this bond, allowing participatory governance that respects citizen values.
- Engagement in defining biases and ethics in AI enhances democratic values and ensures that systems are not mere top-down implementations. Instead, they reflect the people they serve, fostering inclusivity and representation. Citizen involvement in the development process reinforces trust and aligns AI applications with community needs and aspirations.



Regulatory Compliance and Oversight

- Effective regulation is key to unbiased AI in government, intertwining ethical considerations with enforceable standards for consistent ethical AI practices. Comprehensive legislation and clear guidelines lay the groundwork for responsible AI integration across government services.
- Oversight mechanisms like audits, third-party evaluations, and transparent reporting are vital for ongoing compliance, reinforcing public trust and demonstrating commitment to unbiased AI. Continuous monitoring and accountability frameworks maintain integrity and consistency in AI-driven services.



4. Strategies and Measures to Mitigate Bias

To foster trust and effectiveness in AI-driven government services, robust strategies and measures must be implemented to identify, address, and mitigate biases, while aligning with legal norms and ethical principles. A multi-dimensional approach that considers technological, societal, and regulatory aspects is essential for sustained success.



Implement Transparent Algorithms. Transparency in algorithm design facilitates scrutiny and understanding of decision-making, enabling identification and correction of biases for fair outcomes. Transparent algorithms build trust and allow for effective regulation. Collaboration between government, academia, and the private sector can enhance this transparency, fostering innovation in unbiased AI development.



Diversify Data and Development Teams. A diverse mix of data and development teams recognizes and addresses various perspectives and biases, creating inclusive AI systems reflective of the population they serve. Encouraging diversity minimizes biases and fosters creativity and innovation. Collaborative efforts between stakeholders can further strengthen a robust and unbiased AI ecosystem.



Regular Monitoring and Auditing. Regular monitoring and independent third-party auditing of AI systems are vital to detect and correct biases continuously. This ensures that AI evolves and adapts to societal, legal, and technological changes. Cooperation with international bodies can enhance the process, providing additional insights and standards for effective and impartial auditing.



Public Engagement and Consultation. Engaging the public in discussions about biases in AI fosters transparency and trust. Public consultations and open dialogues ensure alignment with societal values, building understanding and acceptance of AI within government services. Collaboration with civil society organizations can deepen this engagement, contributing to a more cohesive society.



Legal Reform and Compliance: Comprehensive legal reform, considering AI's nuances, is vital for unbiased implementations. Aligning AI with existing legal frameworks minimizes conflict and enables seamless integration. Continuous review and adaptation keep legal norms in pace with technology, while international collaboration promotes consistency and alignment with global best practices.



Education and Training: Education and training in AI biases and ethics are crucial for developers, policymakers, and users. Focused curricula and training programs on AI's ethical aspects encourage responsible development and usage. Ongoing education on the latest trends and challenges, and collaboration with educational institutions, fosters a continuous learning environment that promotes responsible AI practices.

5. Future Outlook: Opportunities, Challenges, and Recommendations



Embracing opportunities - the future of AI in government offers tremendous opportunities for efficiency, innovation, and inclusivity. Leveraging AI responsibly can revolutionize how government services are delivered, enhancing both effectiveness and accessibility. Collaborating with various sectors can unlock new potentials, fostering a culture of innovation and excellence in public service. Recognizing and addressing biases ensures that these opportunities are realized without compromising ethical principles.



Setting a global example – as a democracy, setting a global example in unbiased AI implementation is both an opportunity and a responsibility. Fostering international collaboration and standardization can set the stage for global acceptance and practice. Engaging with international organizations and forums promotes a global dialogue on responsible AI. Aligning with international standards and norms ensures consistency and enhances Canada's global reputation and leadership.



Adapting to technological evolution - the rapid pace of technological change necessitates an agile approach to bias mitigation in AI within government services. Embracing the evolving landscape of AI technologies requires constant vigilance, updates, and adaptability in strategies and regulations. Collaborations with technology experts, researchers, and industry leaders can ensure that government stays ahead of the curve. By fostering a culture of continuous learning and adaptation, the government can leverage the full potential of AI while maintaining ethical integrity.



Formulating comprehensive recommendations - a set of comprehensive recommendations forms the roadmap for successful unbiased AI integration in citizen services. Recommendations should include actionable steps encompassing legal reforms, technology standards, public engagement, and global collaboration. Regular review and updates of these recommendations ensure that they remain relevant and effective in a constantly changing environment. By embedding these recommendations within policy and governance structures, the government ensures a systematic and accountable approach to unbiased AI.



For Further Reading

- Walsh, Toby, Neil Levy, Genevieve Bell, Anthony Elliott, James Maclaurin, Iven Mareels, and Fiona M. Wood. The effective and ethical development of artificial intelligence: an opportunity to improve our wellbeing. Australian Council of Learned Academies, 2019.
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- Arrieta, Alejandro Barredo, Natalia Díaz-Rodríguez, Javier Del Ser, Adrien Bannetot, Siham Tabik, Alberto Barbado, Salvador García et al. "Explainable Artificial Intelligence (XAI): Concepts, taxonomies, opportunities and challenges toward responsible AI." Information fusion 58 (2020): 82-115.
- Engstrom, David Freeman, Daniel E. Ho, Catherine M. Sharkey, and Mariano-Florentino Cuéllar. "Government by algorithm: Artificial intelligence in federal administrative agencies." NYU School of Law, Public Law Research Paper 20-54 (2020).

Research Repository

Access the Citizen First [Research Repository](#).

Recent entries on the research repository:

Data Literacy in Public Sector

This report includes the following:

- Importance of Data Literacy in Public Sector
- Data Literacy: Key Challenges and Opportunities
- Role of Stakeholders in Promoting Data Literacy
- Measures for Data Literacy
- The Future of Data Literacy in Public Sector: Action Plan



Trends in the Daily Newsletter



As Prime Minister Justin Trudeau [reorganized his front bench](#) in a massive federal cabinet shuffle, he also created a single new job: minister of citizens' services.

But when the minister appointed to the new role was asked what exactly citizens' services is, he wasn't entirely clear.

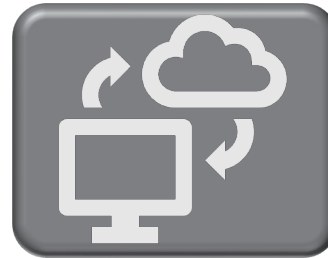
"This is really where the rubber hits the road in providing services to citizens right across the country," newly appointed cabinet minister Terry Beech said Wednesday, less than an hour after he was sworn in.



Disability advocate Haley Flaro says a plan to create accessibility legislation by the New Brunswick government [will help take persons with a disability off the sidelines](#).

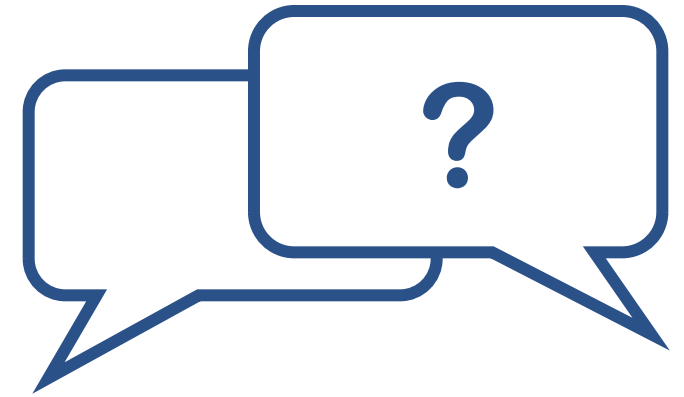
In the second part of a report, the Premier's Council on Disabilities announced the government would be moving forward with the development of legislation long sought by the disability non-profit sector.

The legislation could also include removing the medical model definition of disability, which Flaro explains can be prohibitive for some people needing to access services and resources.



Meta, the company behind Facebook and Instagram, [has started blocking news articles on its social networking services in Canada](#).

The change, in response to a new law in Canada that requires tech companies to pay news outlets for using their content, will roll out "over the course of the next few weeks," Meta said in a blog post on Tuesday. Content posted on Facebook and Instagram by both local Canadian news outlets and international outlets will not be visible to Canadians using the platforms. Canada passed the Online News Act [in June](#), joining a push by numerous governments to force big social media companies to compensate news organizations.



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