

# Implementing Algorithmic Decision-Making Systems in Social Welfare Services

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# The 'digital welfare state' – ADM systems in social welfare services

## 1) Social welfare benefits

- Determining benefits eligibility
- Detecting social fraud

## 2) Child protective services

- Flagging child abuse
  - Targeting flagged families for early intervention
- Preventing the exploitation of vulnerable children and young people
  - Identifying high-risk geographical areas → redirecting support services

# Public sector ↔ ADM **unique challenges**

- **Technology development & implementation** challenges
- **Legal/regulatory** challenges
- **Ethical** challenges
- **Social** challenges

\*Bernd W. Wirtz, Jan C. Weyerer & Carolin Geyer, "Artificial Intelligence and the Public Sector—Applications and Challenges", International Journal of Public Administration, 42:7 (2019)

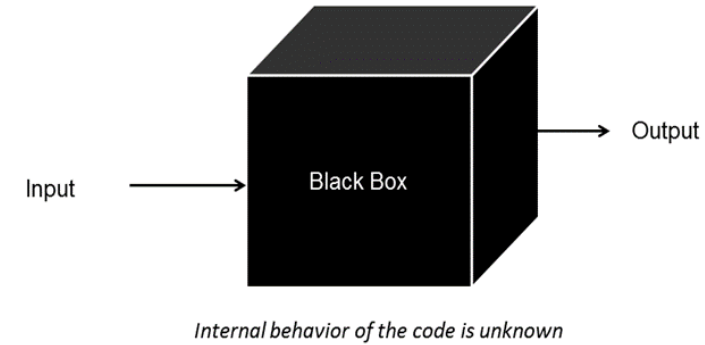
# Ethical difficulties

# ADM **system-specific** ethical difficulties and limitations

- *Inhuman* (lacking human qualities)

# ADM **system-specific** ethical difficulties and limitations

- Non-explainability and 'black box'\* problem



- Uncertainty/Inconsistency (outputs) + non-interpretability or non-explainability (ADM)

→ **Citizen distrust**

\* <https://www.360logica.com/blog/the-aggravation-with-conventional-black-box-testing/>

# ADM **system-specific** ethical difficulties and limitations

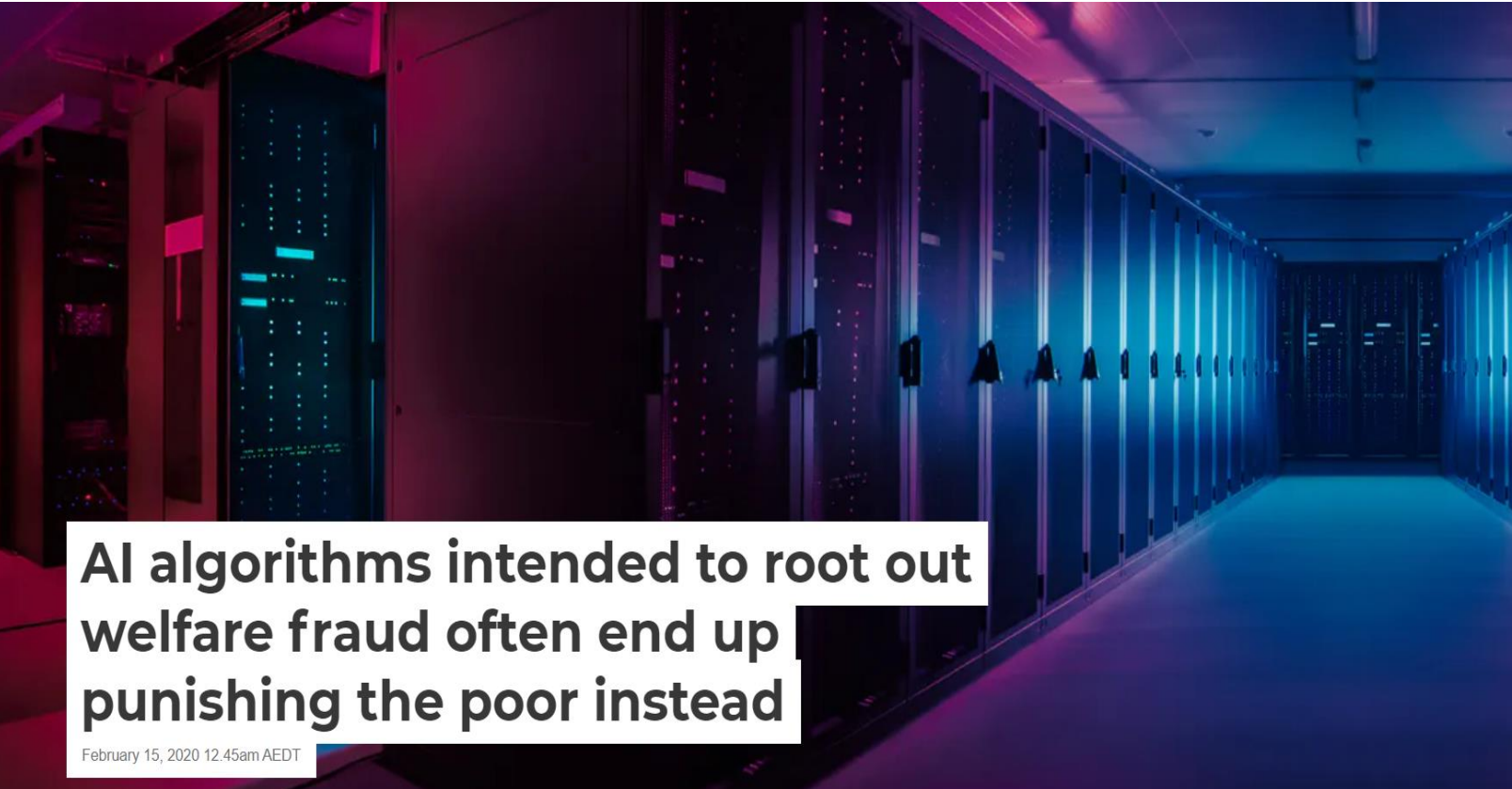
- Responsibility and accountability
- Scale of AI error > scale human error



# MiDAS automated (unemployment) fraud detection system

**THE CONVERSATION**

Academic rigour, journalistic flair



- [2013-2015] ~ 48,000 fraud accusations against unemployment insurance recipients = **A five-fold increase**
- **93%** of which = **false** determinations



# ADM **system-specific** ethical difficulties and limitations

- *Autonomy*
- *Privacy* concerns
- AI Bias ---> Algorithmic stigmatisation/discrimination

# A Child Abuse Prediction Model Fails Poor Families

Why Pittsburgh's predictive analytics misdiagnoses child maltreatment and prescribes the wrong solutions



## The Allegheny Family Screening Tool for child welfare:

- Relying extensively on administrative data from means-tested programs.
- Poor = “high risk” of child welfare placements ⇒ A ‘digital poorhouse’ [Virginia Eubanks].

# Ethical difficulties – Human and civil rights at risk:

- Human dignity
- The right to autonomy
  - The right to privacy
  - The right to self-determination
  - The right to be protected from third party intrusion
- The right to welfare/health
- The right to fairness
- The right to social justice
- **The right to equality**
- **The right to social justice**
- The right to justice
- **The right *not* to be subject to a decision based solely on automated processing... which produces legal effects... [Art. 22 GDPR]**

# ADM in the Netherlands

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Artificial intelligence (AI)

This article is more than 3 months old

## Welfare surveillance system violates human rights, Dutch court rules

Government told to halt use of AI to detect fraud in decision hailed by privacy campaigners

Jon Henley and Robert Booth  
Wed 5 Feb 2020 13:18 GMT

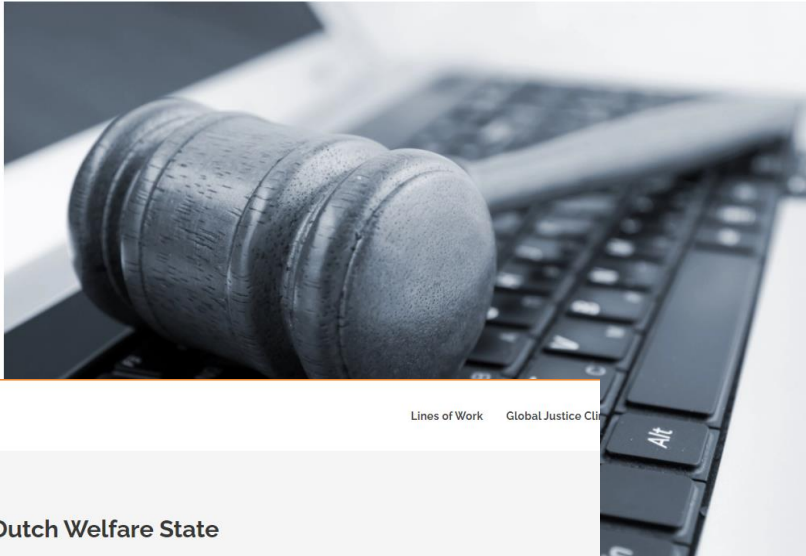


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## Blackbox welfare fraud detection system breaches human rights, Dutch court rules

Natasha Lomas @riptari / 3:03 PM GMT+2 • February 6, 2020



CHR&GJ

Lines of Work Global Justice Clinic

Announcements

### Profiling the Poor in the Dutch Welfare State

November 1, 2019 Christiaan van Veen

Digital Welfare State and Human Rights Project Poverty and Inequality Social Protection Technology

Report on court hearing in litigation in the Netherlands about digital welfare fraud detection system ('SyRI')

On Tuesday, October 29, 2019, I attended a hearing before the District Court of The Hague (the Netherlands) in litigation by a coalition of Dutch civil society organizations challenging the Dutch government's System Risk Indication ('SyRI'). The Digital Welfare State and Human Rights Project at NYU Law, which I recently collaborated with the United Nations Special Rapporteur on extreme poverty and human rights in preparing an amicus brief to the District Court. Rapporteur became involved in this case because SyRI has exclusively been used to detect welfare fraud and other irregularities in poor neighborhoods in cities and affects the right to social security and to privacy of the poorest members of Dutch society. This litigation may also set a highly relevant legal precedent beyond Dutch borders in an area that has received relatively little judicial scrutiny to date.



“SyRI has **exclusively** been used to detect welfare fraud and other irregularities in **poor neighborhoods** in four Dutch cities and affects **the right to social security** and to **privacy** of the poorest members of Dutch society.”

# Advantages & Benefits



# Advantages & Benefits

- Objectivity & Neutrality
    - Automated process
    - Scientific (algorithm-based) outputs
    - Bias-free(?)
    - ✓ Public trust
  - Accuracy
- Incredible precision

# Advantages & Benefits

## ○ Responsibility

Uniform, effective, consistent treatment

## ○ Efficiency & Benefit maximisation

- AI ----> accurate information ----> better forecasts and predictions  
----> improved outcomes
- Greatest welfare to greatest number



# Advantages & Benefits

- Harm prevention / minimisation
  - Simulating complex systems
  - Identifying unintended consequences
- [Service] Personalisation
  - Customisation, better targeting
- Distributive justice
  - Egalitarian treatment
  - Social justice

# Advantages & Benefits

- Benefits for the **ecosystem**
  - Solutions for challenging universal social problems
  - Streamlining administrative processes
    - Saving on human resource cost
- **Professional** benefits:
  - Automation of repetitive tasks ➡ (Human) resource allocation
  - Empowering social workers

# Recommendations

# Recommendations: **Stage I** – *‘Anticipatory Governance’*

## Pre-adoption of an ADM system into public/social welfare services

### 1) A **feasibility Study**

- (existing human alternative; costs – technology, implementation, sustainability, risks)

### 2) [Policymakers] **Justification** of opting for an ADM system:

- Will the impact of the system be **proportionate**?
- In what areas is it **superior to the existing human-based** model?
- How will it **improve** the **existing system**?

### 3) **Algorithmic Equity?**

- Algorithm fairness? Proper operability?

# Recommendations: Stage II – ‘Anticipatory Governance’

Design and adaptation for implementation of ADM systems into public/social welfare services

- 1) Providing a *non-digital option* for a given service
- 2) *Personalisation* (algorithm-**assisted** decision making / algorithmic **decision-making**; type of output: *report* vs. *risk score*)
- 3) Significant *involvement* of public administration *in system design*  
(optimisation, accountability, keeping data internally, control) ⇒ ~~outsourcing development~~
- 4) *Inclusion* of *target population* (SW clients) *in the design*
- 5) *Inclusion* of *professional operators* *in the design*

# Recommendations: Stage III

Post-adoption of the ADM system into public/social welfare services

- ‘**Human-in-the-loop**’ (inc. *over*)
- Formulating **control systems** + processes for **performance evaluation** of the technology
- Establishment of an **appeal mechanism** (+notice) for the ADM system’s decisions (**before going into effect**)

# Thank You!

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