Implementing Algorithmic Decision-Making Systems in Social Welfare Services

AI Tech & Policy Talks (AITPT)

Digital Law Center, Université de Genève

ISRAEL TECH POLICY INSTITUTE

AFFILIATED WITH THE FUTURE OF PRIVACY FORUM

March 31, 2021

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)

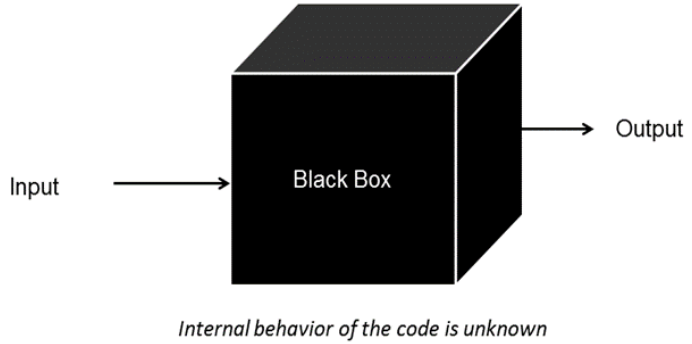
Ethical difficulties

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/

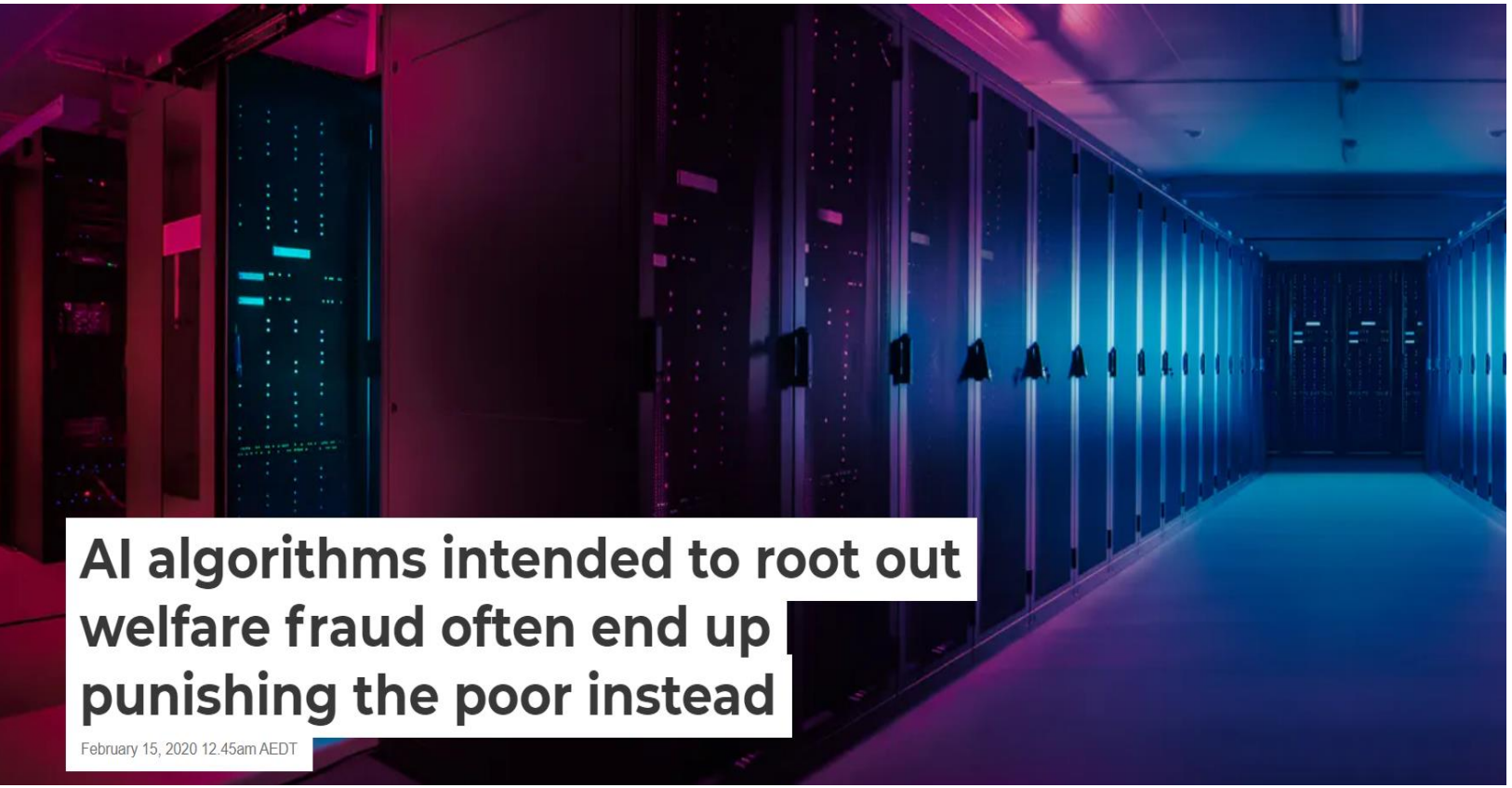
ADM system-specific ethical difficulties and limitations

- 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

ISRAEL TECH POLICY INSTITUTE
AFFILIATED WITH THE FUTURE OF PRIVACY FORUM

ADM system-specific ethical difficulties and limitations

- ~~Autonomy~~
- Privacy concerns
- AI Bias ⇢ Algorithmic stigmatisation/discrimination

WIRED BACKCHANNEL BUSINESS CULTURE GEAR IDEAS SCIENCE SECURITY

VIRGINIA EUBANKS BUSINESS 01.15.2018 08:00 AM

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].

ISRAEL TECH POLICY INSTITUTE

AFFILIATED WITH THE FUTURE OF PRIVACY FORUM

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]

ISRAEL TECH POLICY INSTITUTE

AFFILIATED WITH THE FUTURE OF PRIVACY FORUM

ADM in the Netherlands

"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."

ISRAEL TECH POLICY INSTITUTE

AFFILIATED WITH THE FUTURE OF PRIVACY FORUM

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** rof 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

ISRAEL TECH POLICY INSTITUTE

AFFILIATED WITH THE FUTURE OF PRIVACY FORUM

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!

74-76 Rothschild Blvd., Tel-Aviv 6521401 ISRAEL
WWW.TECHPOLICY.ORG.IL

ISRAEL
TECH POLICY INSTITUTE

AFFILIATED WITH THE
FUTURE OF PRIVACY FORUM