

Countering Digital Eugenics



Jutta Treviranus

Inclusive Design Research Centre

OCAD University

Toronto, Canada

The ancestral and traditional territories of the Mississaugas of the Credit, the Hauenosaunee, the Anishinaabe & the Huron-Wendat

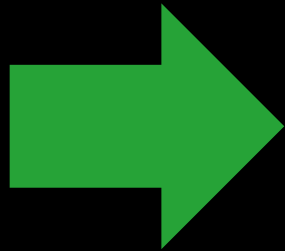
[Attribution-NonCommercial 4.0 International License](#)

If you have a disability the opportunities
and risks are at the extremes

AI is a powerful statistical reasoning machine..

feeding on available data

a power tool...



More
efficiently,
accurately,
consistently..

Statistically finding or producing the...

typical

popular

normative

predictable

statistically average

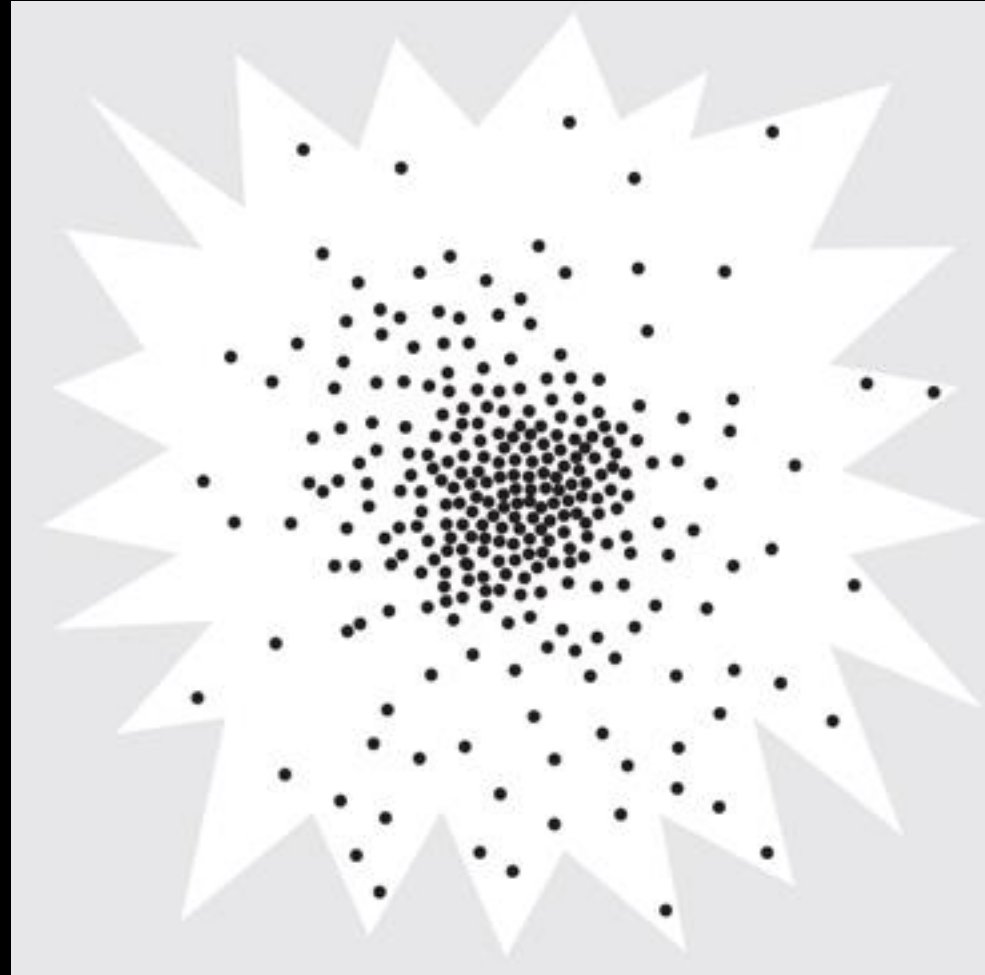
Generations of AI

- **First:** “here are the rules, follow them literally and accurately”
- **Second:** “here is available data, use statistical reasoning to optimize the selected metrics”
- **Third:** “here is all the data we have, you figure it out and make new connections and determine weights based on past relationships and possible combinations.”

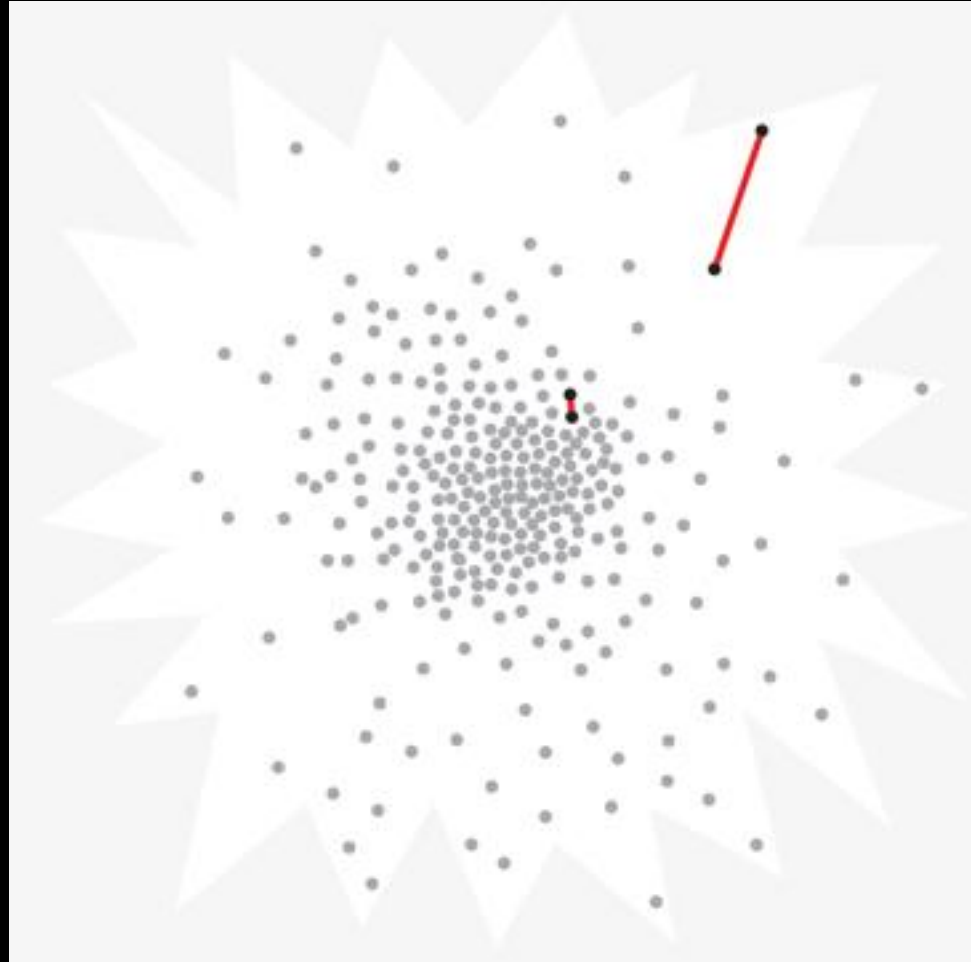
What are the data patterns that AI is amplifying, accelerating and automating?

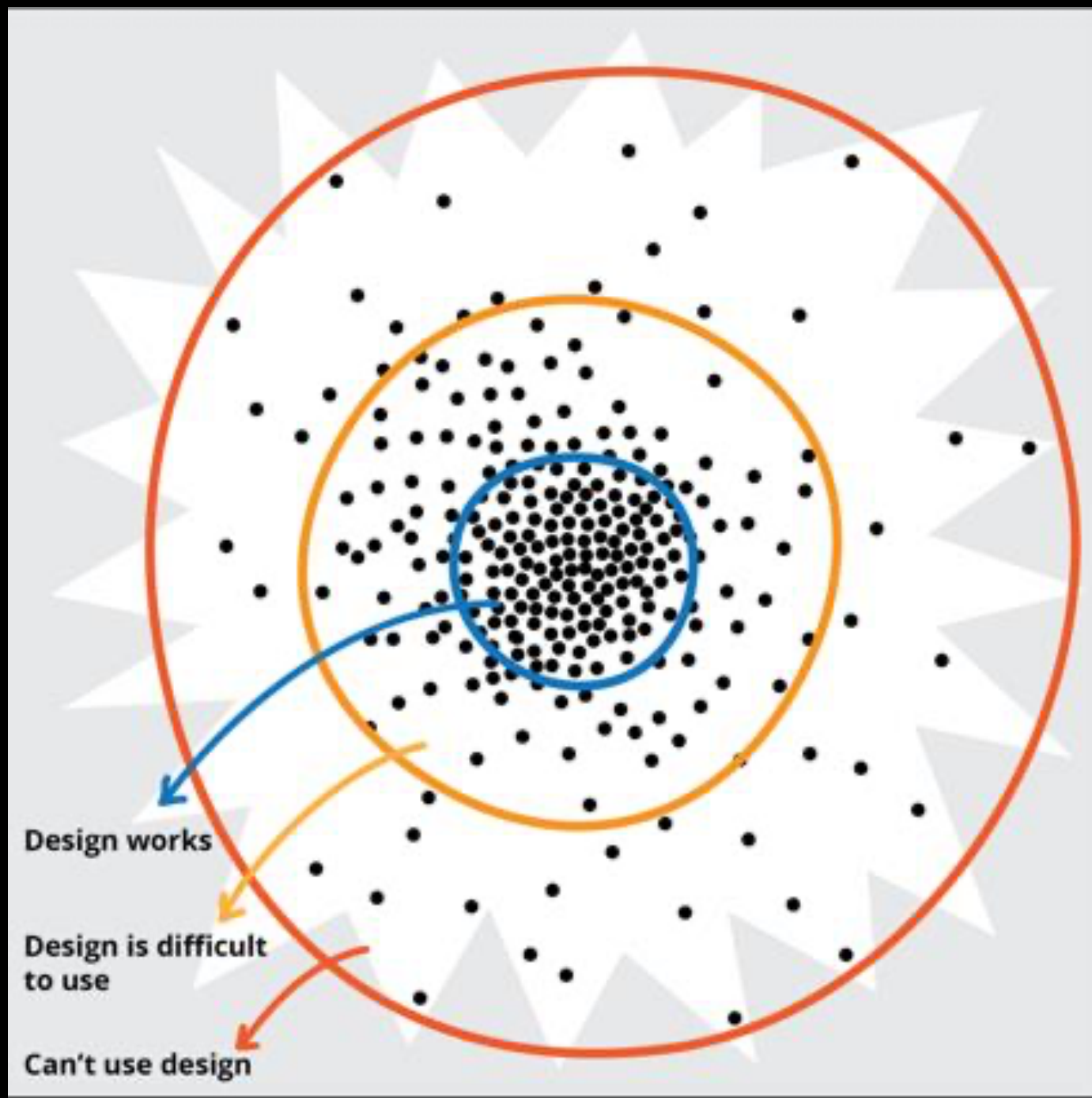
Disability & data..

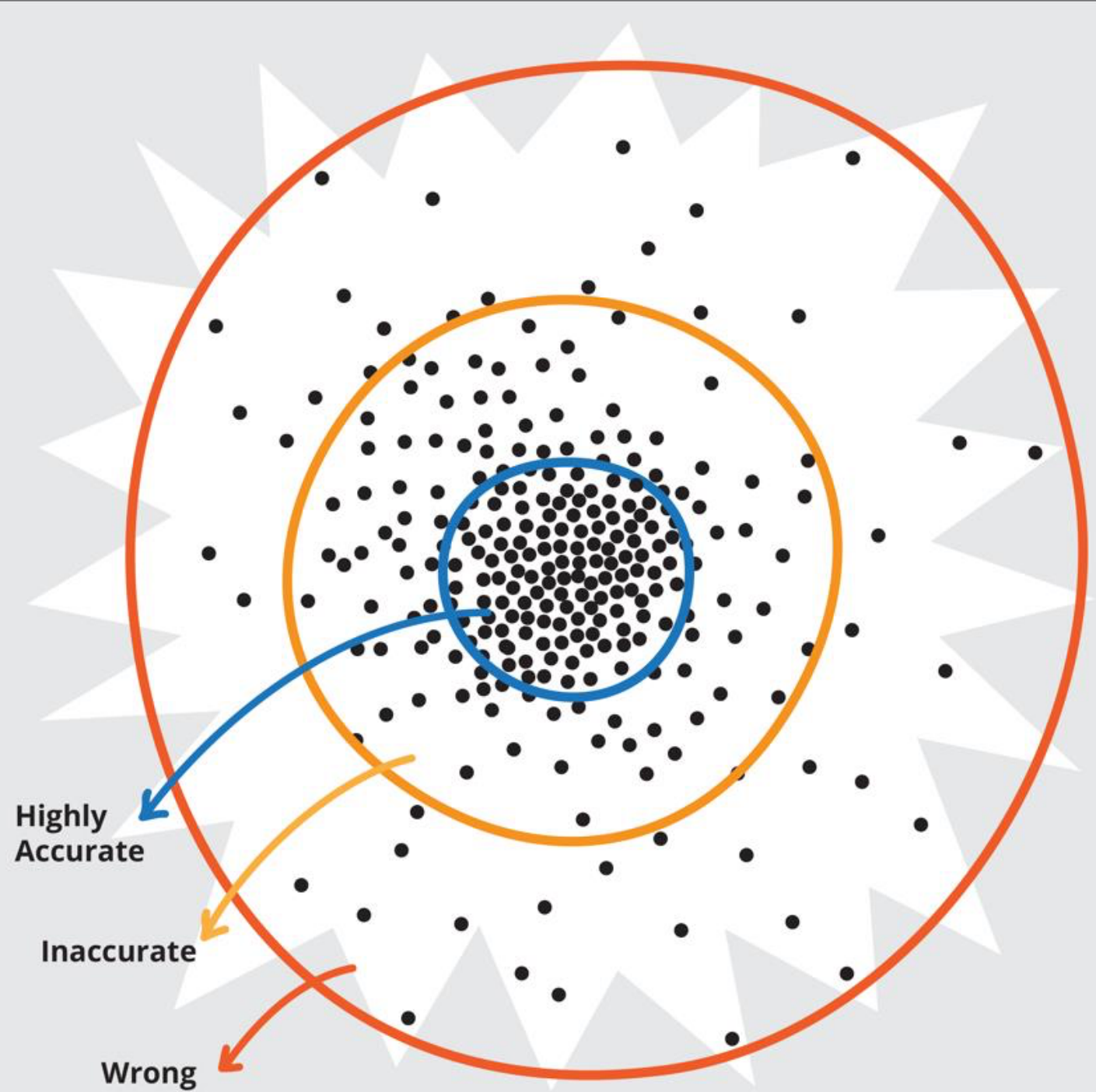
Our human starburst...

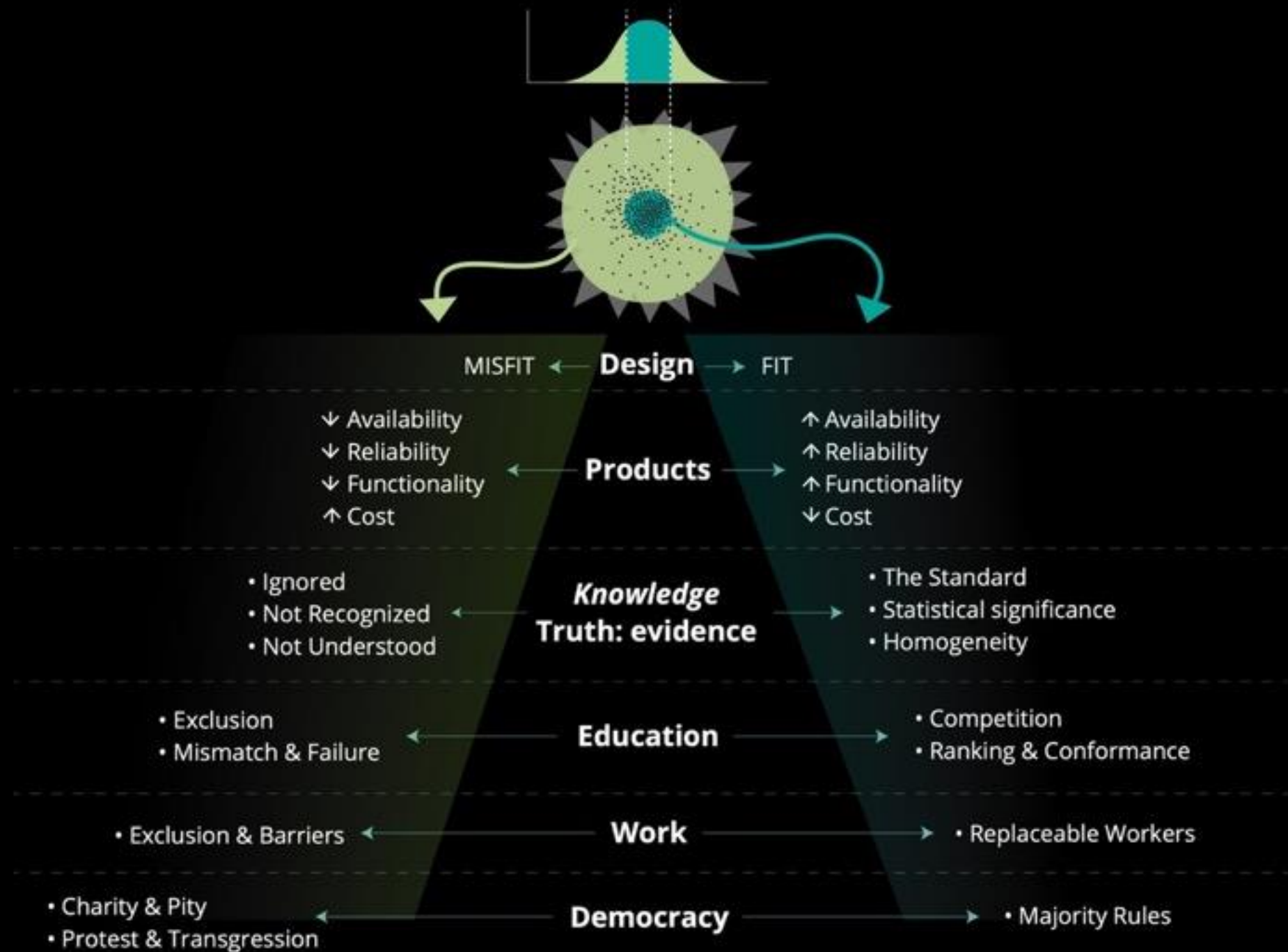


Difference...









Statistical Discrimination:

AI is

..mechanizing and propagating past discrimination faster, more efficiently, and more accurately

Bias toward optimal pattern

=

Bias against difference

Assuming that what we know about the majority
applies to the minority does harm

Harm and incident databases

- Disproportionate reports related to disability
- Examples: parents with disabilities falsely flagged as unfit, false positive tax audits, false positive security flagging, excluded from optima filtering in employment and education, biased credit and asset rating, unfairly denied mortgage and loans, unfairly high insurance rates, deprioritization of relevant information, iatrogenic death and illness...

AI is a seductive **digital eugenics** machine

homogenizing toward a monoculture..

Reducing exposure and comfort with
difference

Statistical Discrimination in AI Ethics Measures

- Insignificant when determining metrics and thresholds for impact
- invisible in error testing
- anecdotal in risk-benefit analysis

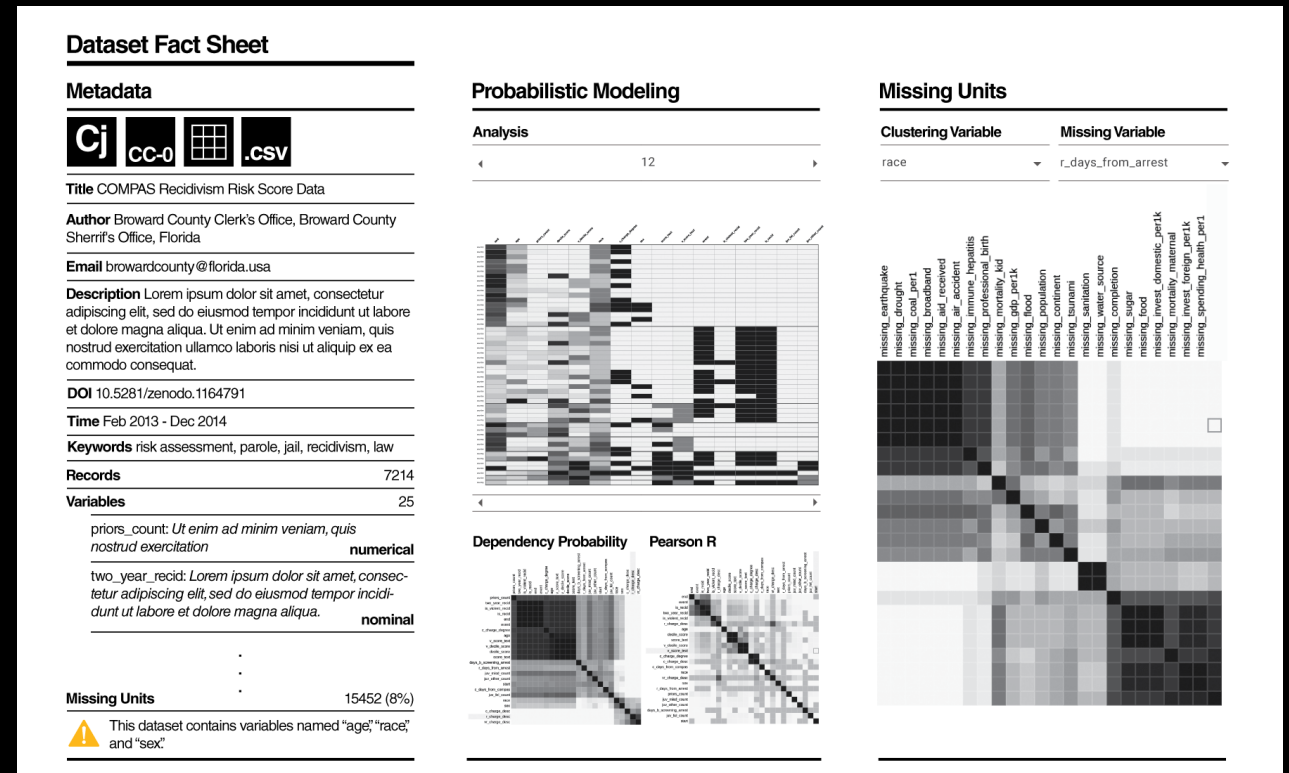
More than...

- Addressing data gaps and bias
- Removing human bias from algorithms
- Removing stereotypes from labels and proxies
- Excising markers of disability to avoid discrimination

What can be done?

Prevent Harm

- "Trust meter"
- Suitability of decision system to person before you
- Based on data used to train AI



Invert the dominant algorithm

- From data exploitation to data exploration
- From homogenization to diversification
- Finding missing perspectives, increasing diversity
- In hiring & admissions

Flipping the perspective

- Focus on the novel and unique
- Inverting the metrics



Pushing benefits to where they are needed the most...

“Baby Bliss Bot”



αH

baby

Σ

Blissymbol
writing (for) world

plan digital
software

$\cdot \checkmark_1 |$

ability self
independent

Filling the regulatory vacuum...

Accessible and Equitable AI Standard
for the Accessible Canada Act

... and the EU

Specific to Disability

- Accessibility: Nothing without us
- Statistical discrimination
- Cumulative harm
- Education

AI as a mirror
... to reflect on the value of difference.



Credit image: Photo by Marc-Olivier Jodoin on Unsplash

Project We Count:

<https://wecount.inclusivedesign.ca>

Inclusive Design Research Centre:

<https://idrc.ocadu.ca>

Supported in part by:



Accessibility Standards
Canada

Normes d'accessibilité
Canada

Funded by Government of
Canada's Innovation, Science
and Economic Development
Canada and Employment and
Social Development Canada

Canada

Funding Acknowledgement

Inclusive Design for Employment Access (IDEA) is supported by generous funding from the Government of Canada's New Frontiers in Research Fund (NFRF) Transformation Stream.

Le Vision Radicale Pour L'Accès Inclusif à l'Emploi (VRAIE) est financé par le fonds Nouvelles frontières en recherche du gouvernement du Canada.



Government
of Canada

Gouvernement
du Canada



New Frontiers in Research Fund
Fonds Nouvelles frontières en recherche

