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A Public Sector Perspective on Responsible AI

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Responsible AI definition

An organizational structure, principles, and practice that supports the design, build, and operation of artificial intelligence (AI) systems maximizing benefit while minimizing risks and unintended impact

Mind the gap
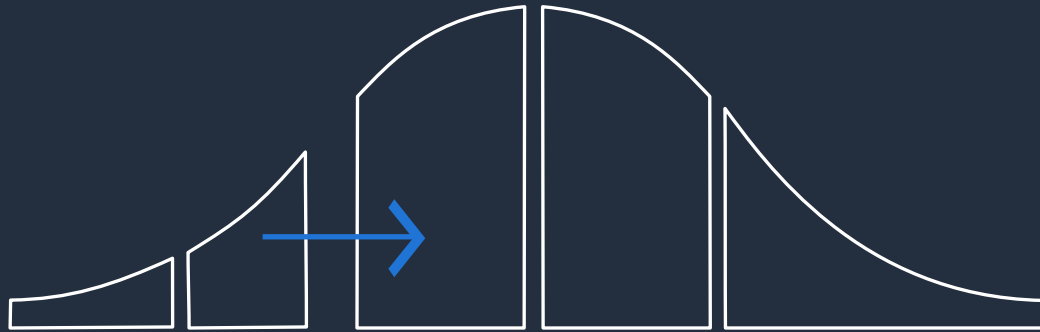
Preparedness gap

- Naive and lack basic awareness or understanding of the challenges

- Lack of clear and prescriptive guidance on how to move beyond any initial technical exploration

- Failure to actively manage risks

71%

of adopters expected to increase their investment in AI in the near term

Deloitte's State of AI in the Enterprise, 3rd Edition, 2020

Risks impacting organizations

Reputational impact ⋮ Loss of trust ⋮ Regulatory repercussions

"[Organizations] fail to focus on ethical, social, and regulatory implications, leaving themselves vulnerable to potential missteps when it comes to data acquisition and use, algorithmic bias, and other risks, and exposing themselves to social and legal consequences."

Harvard Business Review's Year in Business and Technology: 2021
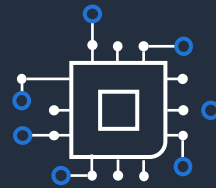referencing McKinsey & Company article "Ten Red Flags Signaling Your Analytics Program Will Fail"

A multi -disciplinary problem

Economics

Moral philosophy
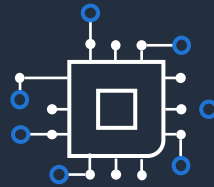
Technology

Law

Social science

Additional concerns for the public sector

Procurement

Data

Technology complexity

Risk averse

Workforce skill set

Responsible AI framework

Value alignment
Systems should be designed and used in ways that align with company mission, social norms, and legal compliance

Privacy and security
Protects the quality and integrity of data, model and underlying infrastructure from unauthorized use, access, and processing

Inclusion
Incorporation of diverse skills, experiences, perspectives, and cultural backgrounds

Training and education
Appropriate knowledge sharing and education to understand purpose, use, and impact

Bias & fairness
Systems must be designed to minimize bias and promote inclusive representation

Accountability
Structured maintaining human involvement and responsibility for design, development, decision processes, and outcomes

Transparency and explainability
Understanding how data is used, how decisions and outcomes are made in a human understandable way

Challenges to Responsible Generative AI

Toxicity

Misinformation

Intellectual property

Plagiarism and cheating

Disruption of the nature of work

Evolving best practices to build generative AI responsibly

✓ Define use cases—the more specific & narrow, the better

✓ Prioritize education & diversity in your workforce

✓ Assess risk with a performance evaluation

✓ Test, test, test

✓ Continually iterate across the AI lifecycle

✓ Introduce governance policies with accountability and measurement

Benefits of building responsibly

ML operating model

- People
- Process
- Tech
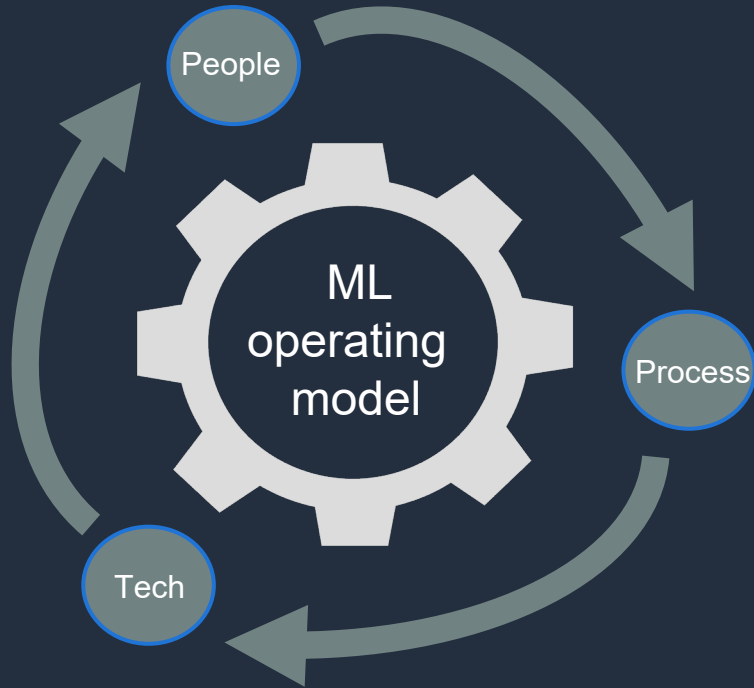
Accelerate adoption

Institute appropriate governance structure

Align AI risk management with broader risk efforts

Develop people resources and skills

Build operational capability

Drive inclusive innovation

Value

Technological advancement must respect the rule of law, human rights, and dignity, as well as our shared values of inclusivity, privacy, and fairness.

Innovation can
transform industries

GENERATIVE AI

Ed Lein

Senior Investigator, Allen Institute for Brain Science

What is generative artificial intelligence (AI)?

- Creates new content and ideas, including conversations, stories, images, videos, and music

- Powered by large models that are pretrained on vast corpuses of data and commonly referred to as foundation models (FMs)

The tipping point for
Generative AI

MASSIVE PROLIFERATION
OF DATA

AVAILABILITY OF
SCALABLE COMPUTE
CAPACITY

MACHINE LEARNING
INNOVATION

Common use cases

Text
generation

Q&A

Text
summarization

Text
extraction

Paraphrase
rephrase

Search

Code
generation

Image
generation

Image
classification

Audio
generation

Video
generation

Generative AI public sector examples

Constituent communications
Citizen engagement and feedback, transparency

Public health
Personalized care, population health assessments

Public safety
Public safety and crime prevention, emergency response and disaster management

Transportation
Traffic optimization, autonomous vehicle control, personalized transportation experiences

Finance
Budget optimization, fraud detection, risk assessment and mitigation

Constituent services
Urban planning, personalized urban services

Energy and utilities
Energy management, waste management, smart grid optimization

Research and engagement
Environmental monitoring

Instead of sending your data to the model, bring the model to your data

Your data is
your differentiator

Q&A

aws

Thank you!

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