AGA's 22nd Annual DC Chapter Hybrid Training Event

IMPROVING DATA QUALITY FOR USAGE WITH AI AND OTHER TECHNOLOGIES

5.7.24

What is Generative AI?

ChatGPT
An OpenAI service that incorporates a conversational chatbot with an LLM to create content. It was trained on a foundational model of billions of words from multiple sources and was then fine-tuned by reinforcement learning from human feedback.

Large Language Models (LLM)
AI that is trained on vast amounts of text allowing it to to interpret and generate humanlike textual output.

Foundation Models
Large machine learning models. They are trained on a broad set of unlabeled data, fine-tuned and adapted to a wide range of applications.

Generative AI (GenAI)
AI techniques that learn from a representation of artifacts in a model & generate new artifacts with similar characteristics.
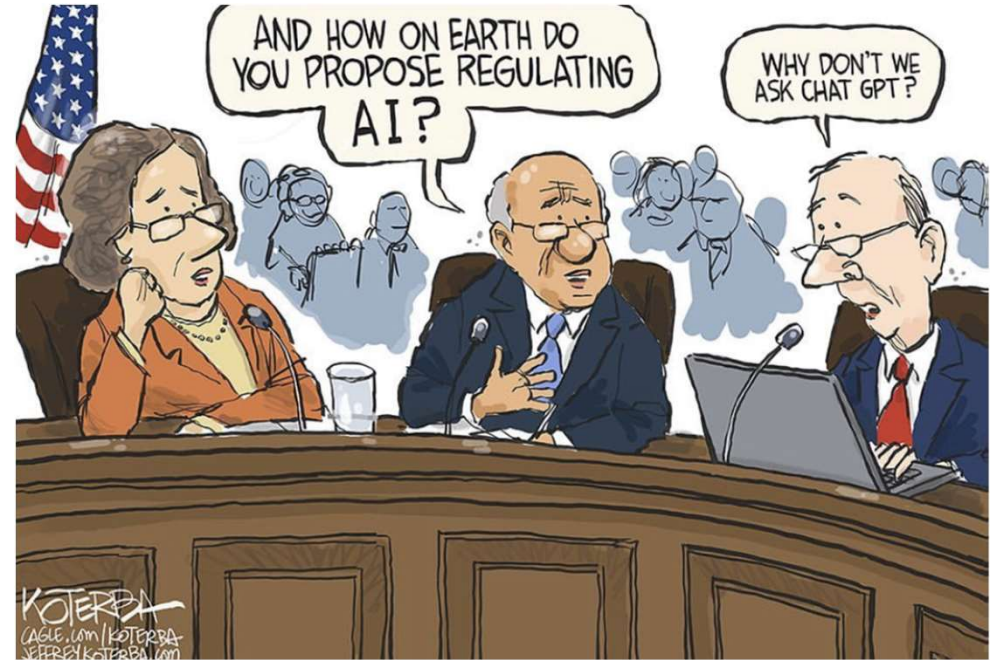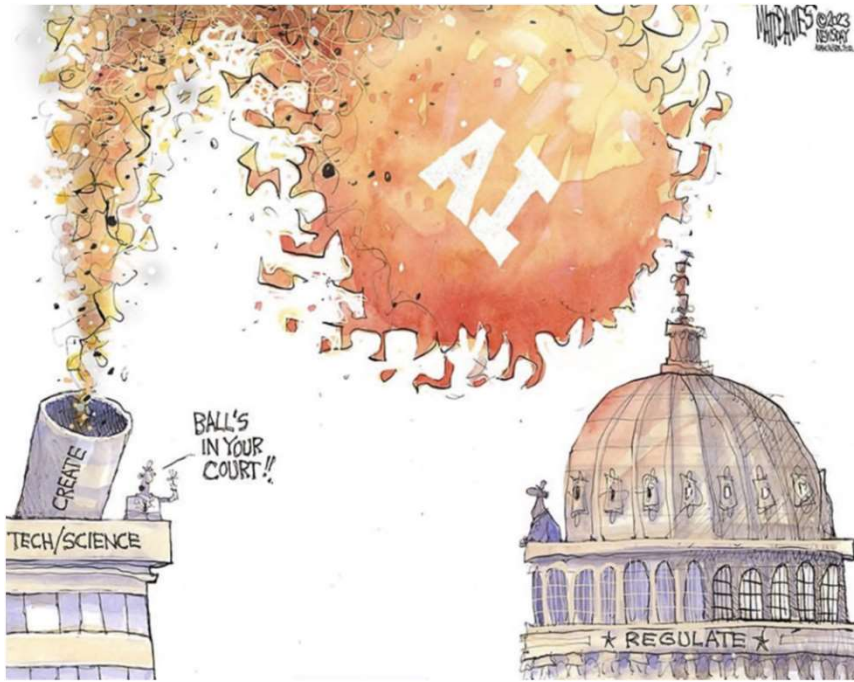
How does data quality affect AI and other technologies?

1. **Accuracy of Predictions**

2. **Bias in Predictions**

3. **Model Robustness**

4. **Feature Selection**

5. **Data Preprocessing**

6. **Data Distribution Shifts**

7. **Resource Allocation**

8. **Model Interpretability**

WTF

4

Executive Order 14110

The Executive Order has requirements that will impact HUD.

OCTOBER 30, 2023

Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

⚪ ▸ BRIEFING ROOM ▸ PRESIDENTIAL ACTIONS

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

*"...the head of each agency developing policies and regulations related to AI shall use their authorities to **promote competition in AI**..."*

*"Agencies are **discouraged from imposing broad general bans** or blocks on agency use of Generative AI..."*

*"Agencies shall use their respective civil rights and liberties offices and authorities to prevent and **address unlawful discrimination** that result from AI."*

*"Agencies shall consider opportunities to ensure that their **respective civil rights and liberties offices are appropriately consulted** throughout the AI process."*

*"Agencies shall ensure that AI and other related talent needs (such as technology governance and privacy) are reflected in **strategic workforce planning and budget formulation**."*

*"...head of each agency shall implement — or increase the availability and use of — **AI training and familiarization programs**..."*

OMB MEMORANDUM

A recently-finalized OMB Memo lays out additional requirements impacting HUD

DRAFT FOR PUBLIC REVIEW

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

THE DIRECTOR

PROPOSED MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Shalanda D. Young

SUBJECT: Advancing Governance, Innovation, and Risk Management for Agency Use of Artificial Intelligence

Artificial intelligence (AI) is one of the most powerful technologies of our time, and the President has been clear that we must seize the opportunities AI presents while managing its risks. Consistent with the Artificial Intelligence in Government Act of 2020,[1] the Advancing American AI Act,[2] and President Biden's Executive Order of October 30, 2023 (Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence), this memorandum directs agencies to advance AI governance and innovation while managing risks from the use of AI, particularly those affecting the safety and rights of the public.

Operations:

- Designate an agency Chief AI Officer
- Convene an agency AI governance board
- Publicly release an expanded AI use case inventory

Policy:

- Conduct periodic risk reviews for any safety-impacting or rights-impacting AI
- Stop using any safety-impacting or rights-impacting AI that is not in compliance with the minimum practices
- Report any agency-specific lists of AI purposes that are presumed to be rights-impacting or safety-impacting
- Report any determinations made to safety or rights impacting AI exceptions or waivers granted

Both:

- Submit and release an agency plan for compliance
- Develop and publicly release an agency strategy for removing barriers to the use of AI and advancing AI maturity

OMB Updated Guidance

Top 6 Changes from OMB Draft Memo to final| Article

+Working groups

Added compliance time:

The new policy changes the deadline for agencies to be in compliance with risk management practices from Aug. 1 to Dec. 1.

Sharing code, data:

Agencies must "release and maintain that code as open-source software on a public repository" under the memo, unless sharing it would pose certain risks or it's restricted by law, regulation, or contract.

AI Talent Lead:

The policy also states agencies should designate an "AI Talent Lead," which didn't appear in the draft.

Aggregate metrics:

Agencies and the Department of Defense will both have to "report and release aggregate metrics" for AI uses that aren't included in their public inventory of use cases under the new memo.

Safety, rights determinations:

The memo also added a new requirement that agencies have to validate the determinations and waivers that CAIOs make on safety- and rights-impacting use cases, and publish a summary of those decisions on an annual basis.

Procurement considerations:

Three procurement recommendations related to test data, biometric identification, and sustainability were also added to the final memo.

TENANT SCREENING

Executive Order 14110 Section 7.3(c): "**Within 180 days** of the date of this order, to combat unlawful discrimination enabled by automated or algorithmic tools used to make decisions about access to housing and in other real estate-related transactions, **the Secretary of Housing and Urban Development shall**, and the Director of the Consumer Financial Protection Bureau is encouraged to, issue additional guidance:

   (i)   addressing the use of tenant screening systems in ways that may violate the Fair Housing Act (Public Law 90-284), the Fair Credit Reporting Act (Public Law 91-508), or other relevant Federal laws, including how the use of data, such as criminal records, eviction records, and credit information, can lead to discriminatory outcomes in violation of Federal law"

HOUSING, CREDIT, AND OTHER REAL ESTATE ADVERTISING

Executive Order 14110 Section 7.3(c): "**Within 180 days** of the date of this order, to combat unlawful discrimination enabled by automated or algorithmic tools used to make decisions about access to housing and in other real estate-related transactions, **the Secretary of Housing and Urban Development shall**, and the Director of the Consumer Financial Protection Bureau is encouraged to, issue additional guidance:

(ii) addressing how the Fair Housing Act, the Consumer Financial Protection Act of 2010 (title X of Public Law 111-203), or the Equal Credit Opportunity Act (Public Law 93-495) apply to the advertising of housing, credit, and other real estate-related transactions through digital platforms, including those that use algorithms to facilitate advertising delivery, as well as on best practices to avoid violations of Federal law."
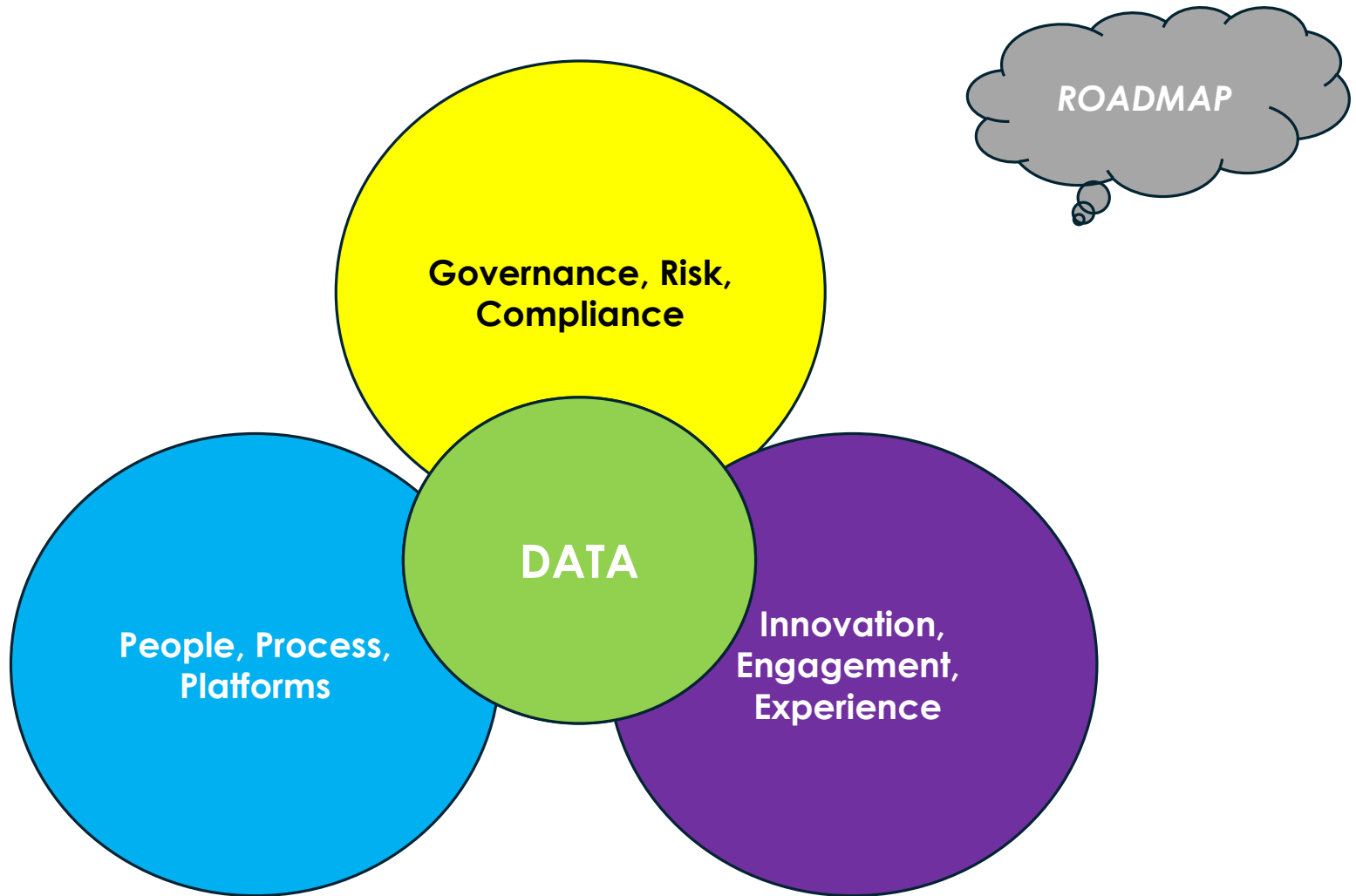
RECENT FEDERAL AI ACTIONS

APRIL 29, 2024

Biden-Harris Administration Announces Key AI Actions 180 Days Following President Biden's Landmark Executive Order

Today, federal agencies reported that they completed all of the 180-day actions in the E.O. on schedule, following their recent successes completing each 90-day, 120-day, and 150-day action on time. […]

- **Issued guidance on AI's nondiscriminatory use in the housing sector.** In two guidance documents, the Department of Housing and Urban Development affirmed that existing prohibitions against discrimination apply to AI's use for tenant screening and advertisement of housing opportunities, and it explained how deployers of AI tools can comply with these obligations.

ROADMAP

Governance, Risk, Compliance

DATA

People, Process, Platforms

Innovation, Engagement, Experience

11

HUD DATA STRATEGY

What has been done:

Significant progress in institutionalizing and implementing foundational activities like:

- Establishment and operationalizing the Data Governance Board
- Publishing the board's charter and member list
- Selecting data maturity assessment model and conducting agency-wide data maturity assessment

Next Steps:

Through the activities set forth in HUD's three-year Data Strategy, focus on these specific areas to continue building the foundational groundwork towards these strategic goals:

- Strengthening data governance to enable a strategic approach to data analytics and data development
- Developing a robust data analytics infrastructure with improved metadata framework and data standards, processes, policies, and procedures
- Maturing the agency data-driven culture from the top leadership downwards

DATA QUALITY & DATA GOVERNANCE IN THE NEWS

Dept. of Commerce: Commerce's AI and Open Government Data Assets Working Group launched a Request for Information (RFI) to collaborate with the private and public sectors as the Department explores producing AI-ready data. [Commerce.gov, 4/17/24]

Dept. of Defense: "DOD's data, analytics and AI adoption strategy — developed by the [Chief Data & AI Officer] and publicly released last November — placed quality of data as the base of the department's overarching 'AI hierarchy of needs.'" [Nextgov/FCW, 2/20/24]

In the States: In a 4/23/24 panel discussion, three state-level officials working on AI discussed data governance. [GovTech, 4/24/24]

- Georgia CAIO Nikhil Deshpande said the Georgia Technology Authority implemented an AI governance framework in partnership with state agencies, and that the state is creating an innovation lab for technology pilots and proof of concepts.

- Maryland Senior Advisor for Responsible AI Nishant Shah emphasized Maryland's goal of establishing a repository of use cases that expanded over time, and the importance of successful proof of concepts involving the correlation between AI and data across key functional areas.

- Vermont Chief AI and Data Officer Josiah Reich said he sent out a "five-level data classification plan draft to our security department" with the goal of specifying data not accessible without court order.

HUMAN CENTERED AI PRINCIPLES

Human-Centric Design and Transparency
- Promote AI adoption that is safe, secure, and trustworthy, providing clear explanations of system operations and decisions.

Protect Our Community
- Safeguard our citizens' civil rights and liberties in the housing market.

Ethical Use
- Ensure AI applications align with ethical standards and uphold human rights.

Fairness, Equity, and Accountability
- Prioritize AI applications that promote fair and equitable access to housing.

Governance and Security
- Follow well-established protocols for data collection, storage, and usage in AI applications.

Public Engagement and Education
- Promote public awareness and understanding of AI technologies and their implications.