

Converge AI: Government Solutions Forum

The Clearinghouse Project: AI Use Cases in Federal Gov.

Myeong Lee
AI-in-Gov Fellow
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Community
Informatics
Lab



Background

Executive Order 14110: Government departments, agencies, and offices are required to report their use of AI.

Problems:

Although standardized guidelines have been issued, the data curation practices and data qualities are inconsistent.

GUIDANCE FOR 2024 AGENCY ARTIFICIAL INTELLIGENCE REPORTING PER EO 14110

August 14th, 2024

The Advancing American AI Act,¹ Executive Order (EO) 14110, *Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence*,² and Office of Management and Budget (OMB) Memorandum M-24-10, *Advancing Governance, Innovation, and Risk Management for Agency Use of Artificial Intelligence*,³ require Federal agencies⁴ to report on their use of artificial intelligence (AI). With limited exceptions, agencies must (I) conduct an annual inventory of their AI use cases, (II) submit metrics on AI use cases not subject to being individually inventoried, and (III) provide information about determinations, extensions, and waivers from Section 5 of OMB Memorandum M-24-10.

The following guidance provides the criteria, format, and mechanisms for Federal agencies to complete the required reporting activities for the 2024 calendar year.

I. INVENTORY OF ARTIFICIAL INTELLIGENCE USE CASES

Pursuant to Section 7225(a) of the Advancing American AI Act and Section 10.1(e) of EO 14110, Federal agencies are required to conduct an annual inventory of their AI use cases. The Director of the OMB is charged with issuing instructions to agencies for the collection, reporting, and publication of information about agency AI use cases, including information on agencies' management of risks from the use of AI. As provided by EO 14110, this guidance to agencies supersedes the annual inventory guidance originally established pursuant to Section 5 of EO 13960, *Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government*.⁵

1. SCOPE

a. Definition of AI

Agencies shall apply the definition of AI provided in Section 238(g) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019,⁶ which states that "the term 'artificial intelligence' includes the following:

Data Problems

Data Science Spectrum (Berman et al., 2018)

ACQUIRE

CLEAN

USE/REUSE

PUBLISH

PRESERVE

Data Provision & Quality Issues

The ways agencies and offices provide are inconsistent.

The central repository managed by the Office of Federal CIO merges AI use cases from different departments without standardization.

Impact

Because of the inconsistent data quality, assessing AI impact is difficult.

Hart to Navigate the Data

There's no effective way to navigate or visualize the data.

There's no systematic way to preserve the data by curating it from different sources.

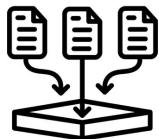
Goals

Curating a comprehensive data about the use of AI in government agencies across the U.S. as an interactive visualization system.

- Streamlining the data curation pipeline from multiple sources.
- Assessing credibility by cross-checking data.
- Developing a data standard to structure data in different forms.
- Creating an interactive visualization platform to better navigate the data.
- Assess the impact of AI in governments.

Approach

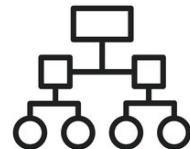
Creating a unified data collection pipeline



Cross-checking & disambiguating data



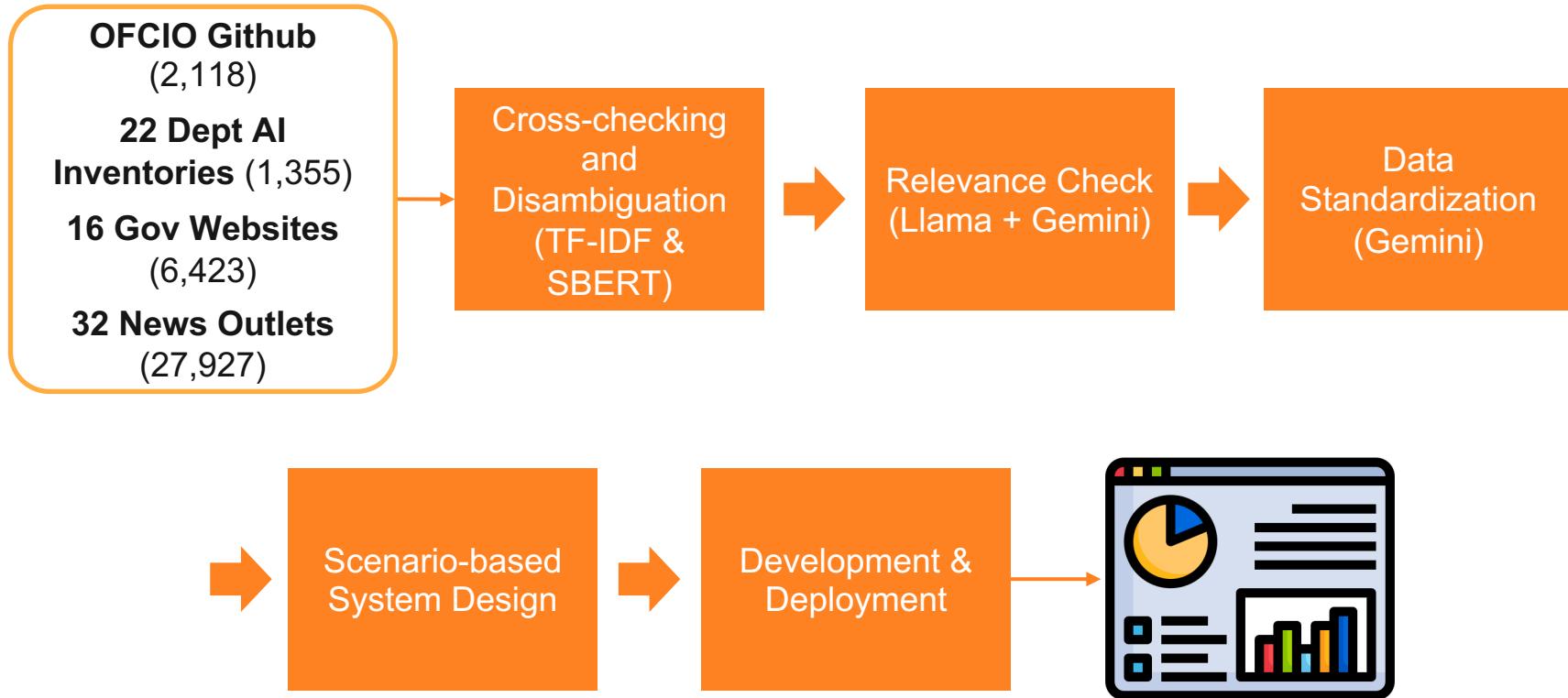
Data validation and standardization



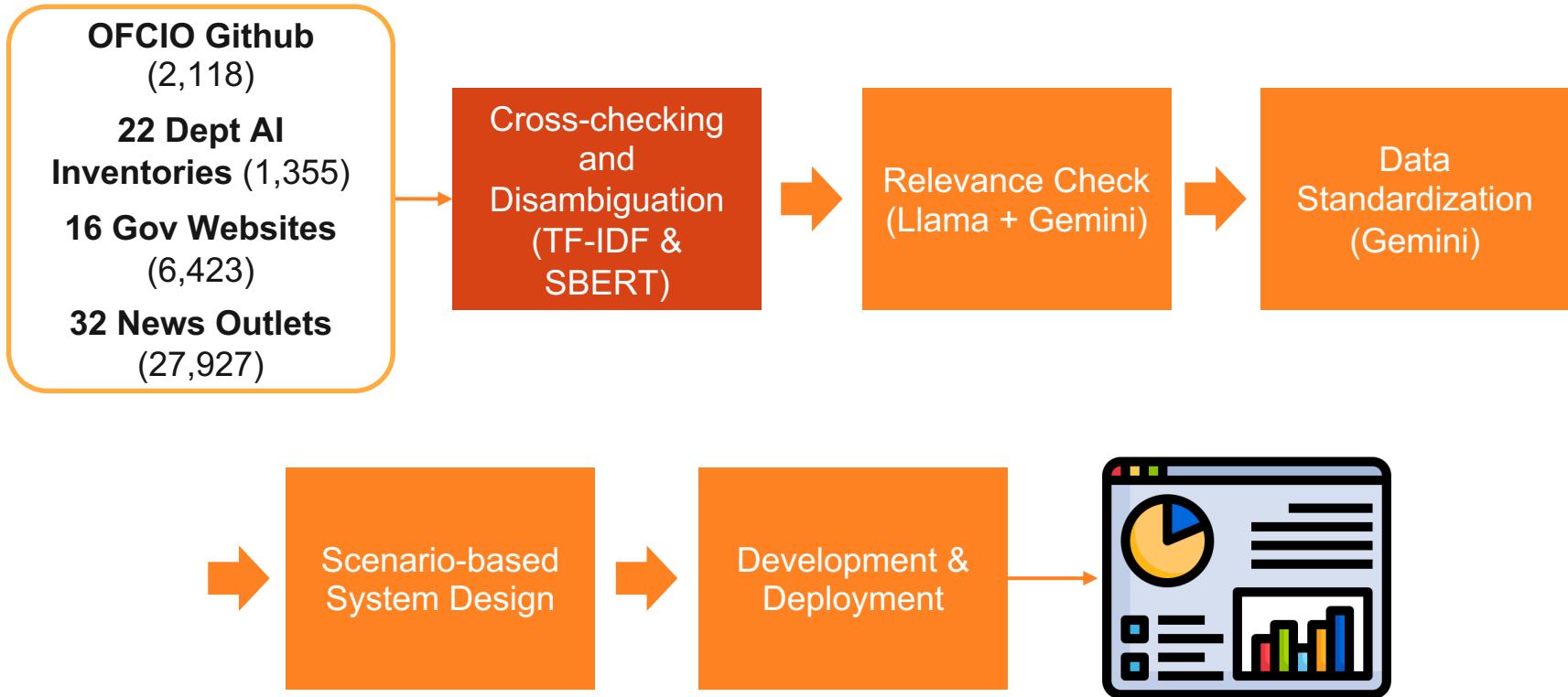
Designing and developing a visualization system



Overall Process

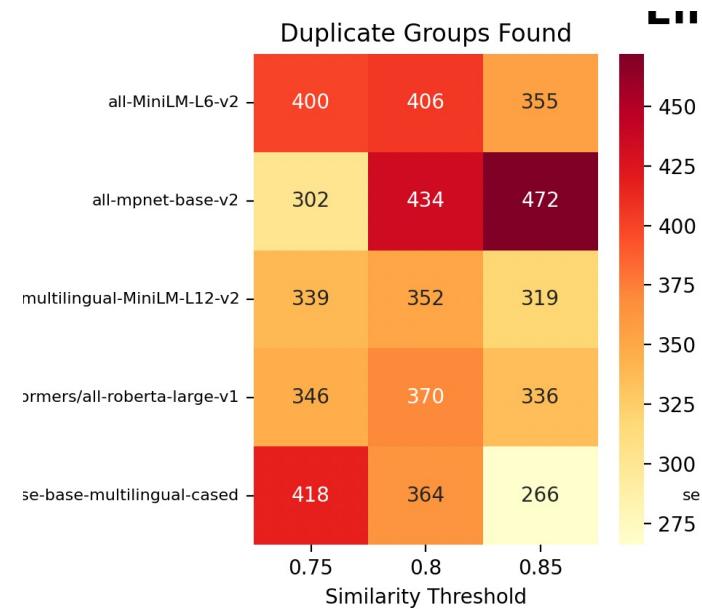
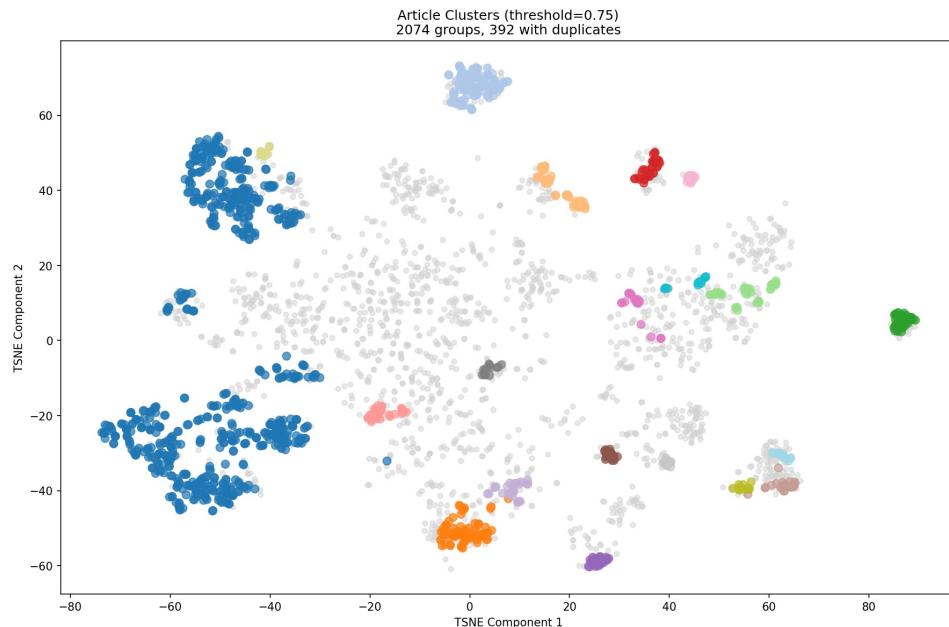


Overall Process

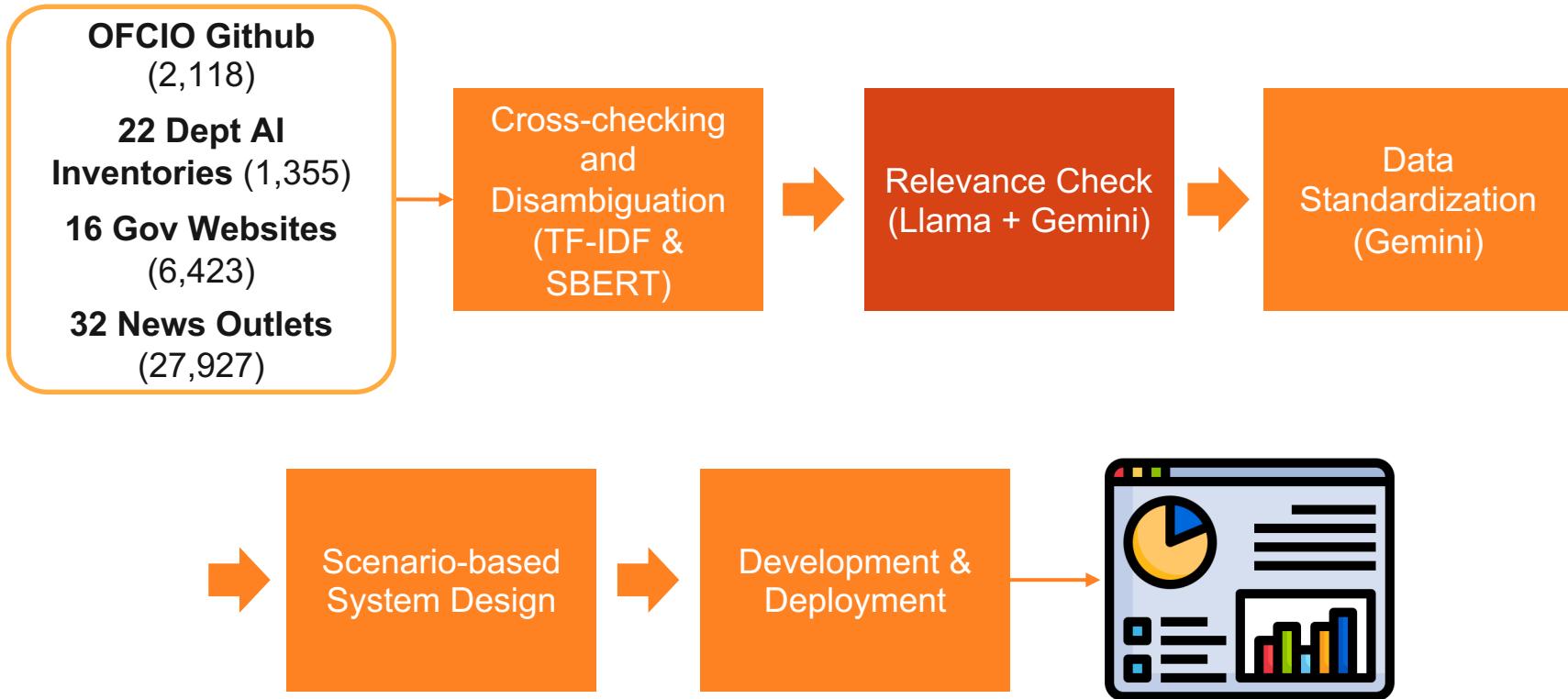


Cross-checking and Disambiguating

Word embedding of each AI use case → Clustering → Manual parameter tuning (F1=0.974)



Overall Process

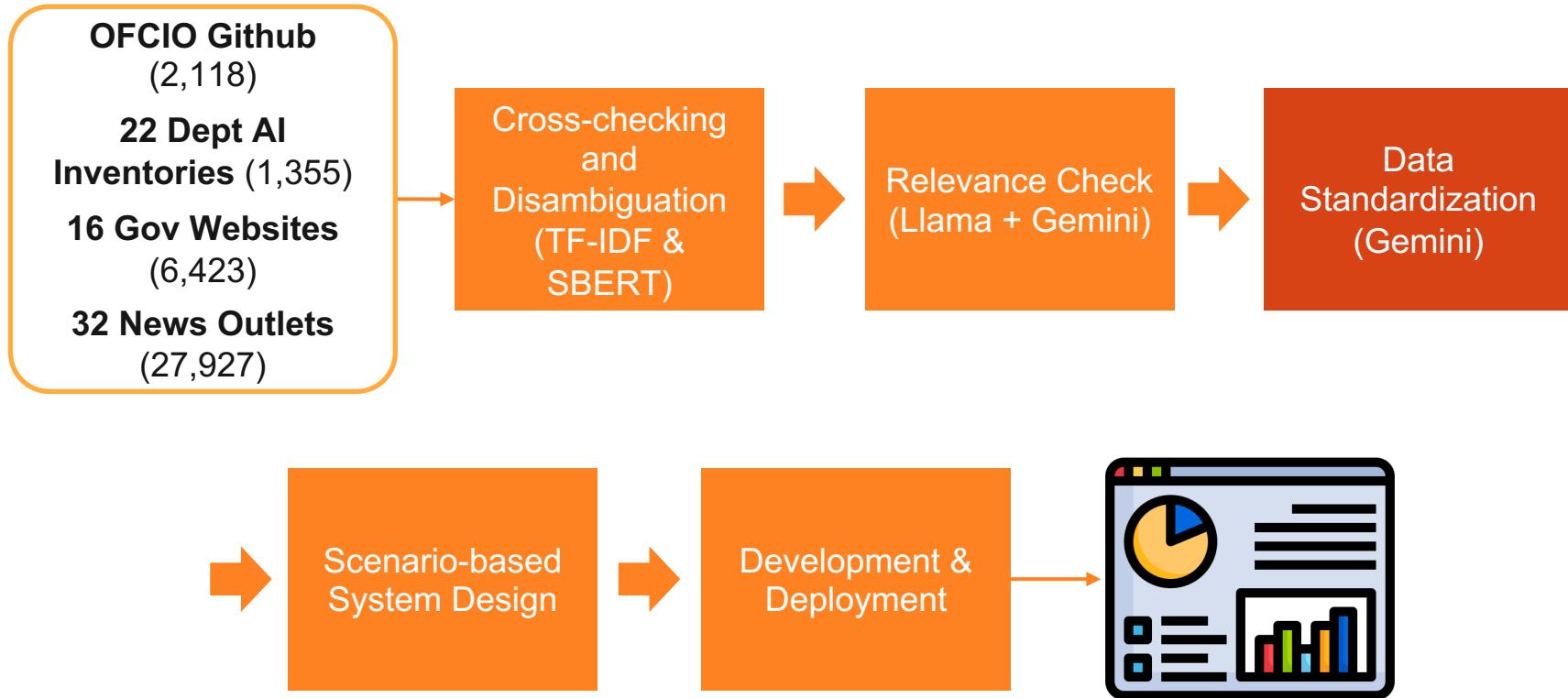


Relevance Check

Checking whether each news article (from both news outlets and government websites) is an AI use case in federal gov.



Overall Process



Standardizing Data

Organizational Context (using standard hierarchy)

- Department (e.g., DOD, HHS, DOJ)
- Agency (e.g., FBI, CDC)

AI Characteristics (closed card-sorting)

- AI Type (e.g., machine learning, Generative AI)
- AI Function (e.g., perception, decision-making)

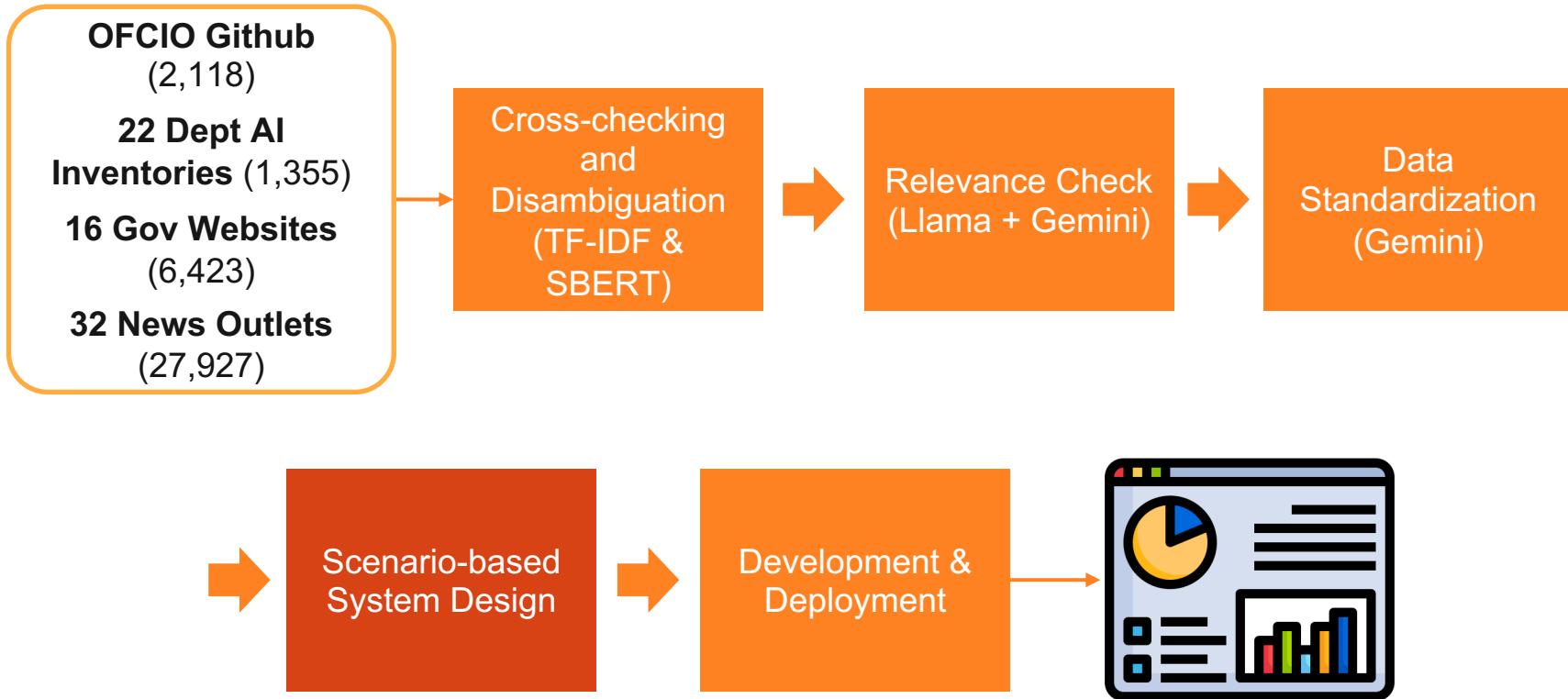
Domain & Topic (open/closed card-sorting)

- Sector (e.g., finance, law enforcement, defense)
- Topic Area (e.g., help desk)

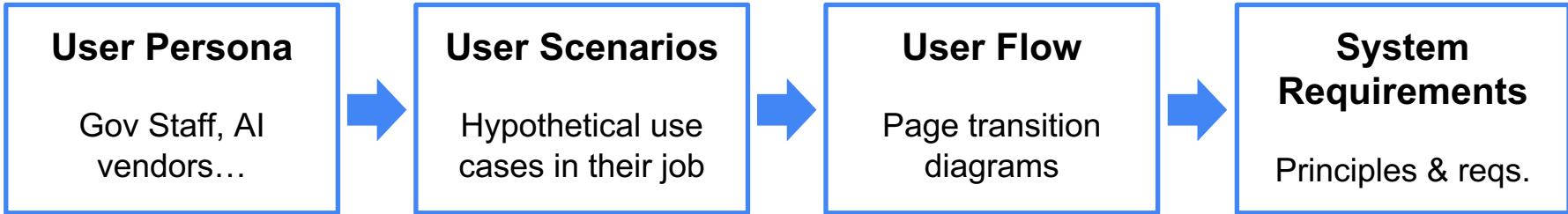
Implementation Dates, Impact Area, Procurement,...

Assigned categories and values to the entire AI use case data
(Gemini-1.5 presented the best recall, 0.97)

Overall Process



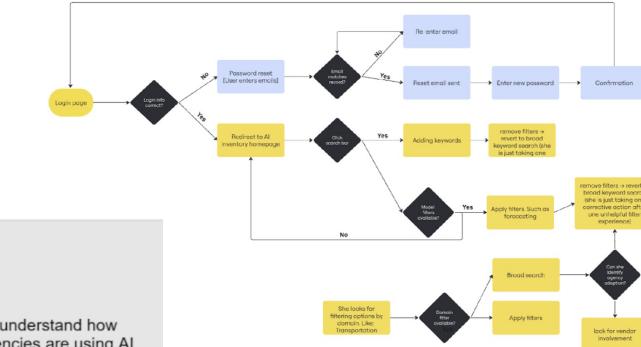
Scenario-based Design



Olivia Kim
Female, 33 years old
AI program lead at a federal agency, managing internal AI development and vendor partnerships.

Goal:

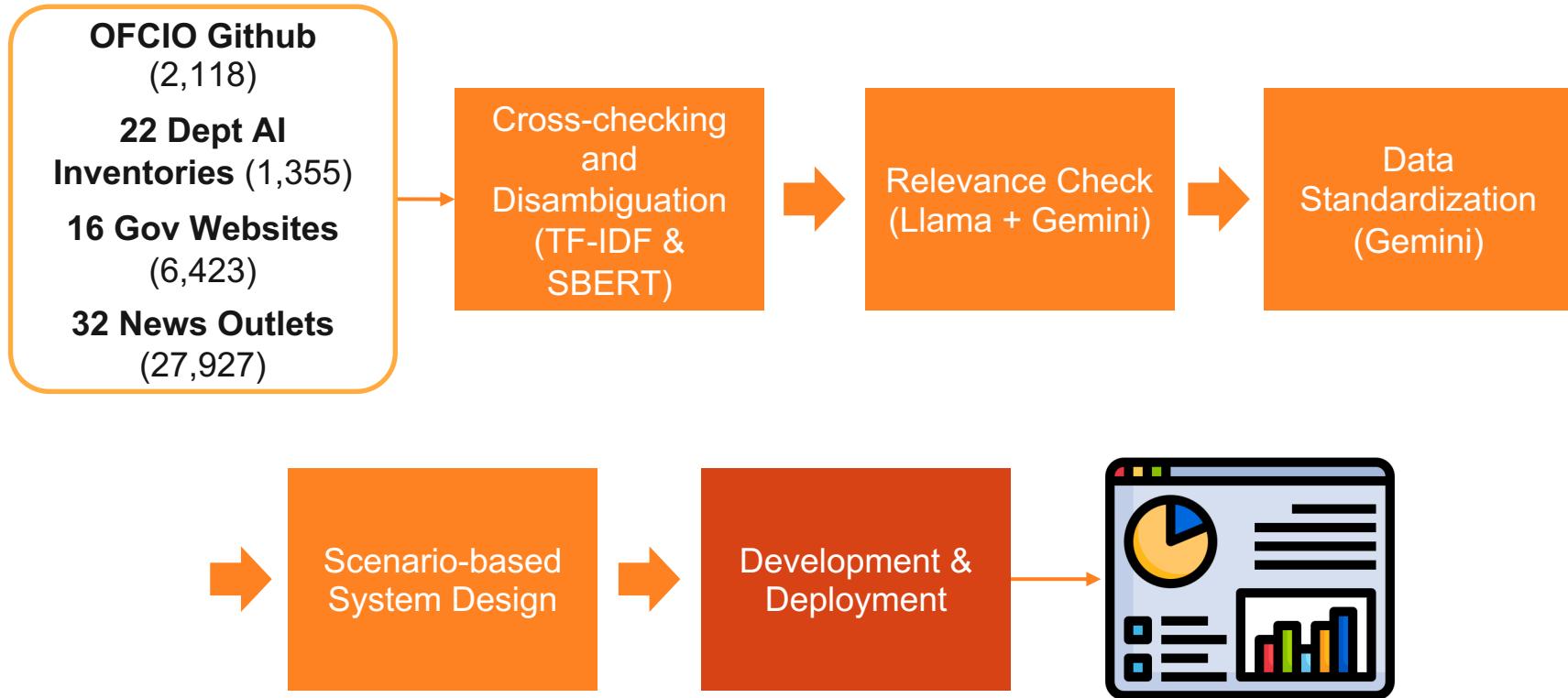
Olivia wants to better understand how other government agencies are using AI so they can benchmark their own initiatives. They're looking for inspiration for upcoming projects, want to identify gaps in the current AI ecosystem, and hope to align proposals with broader government priorities. Understanding trends by sector and tracking similar past projects is key to avoiding redundancy and improving performance.



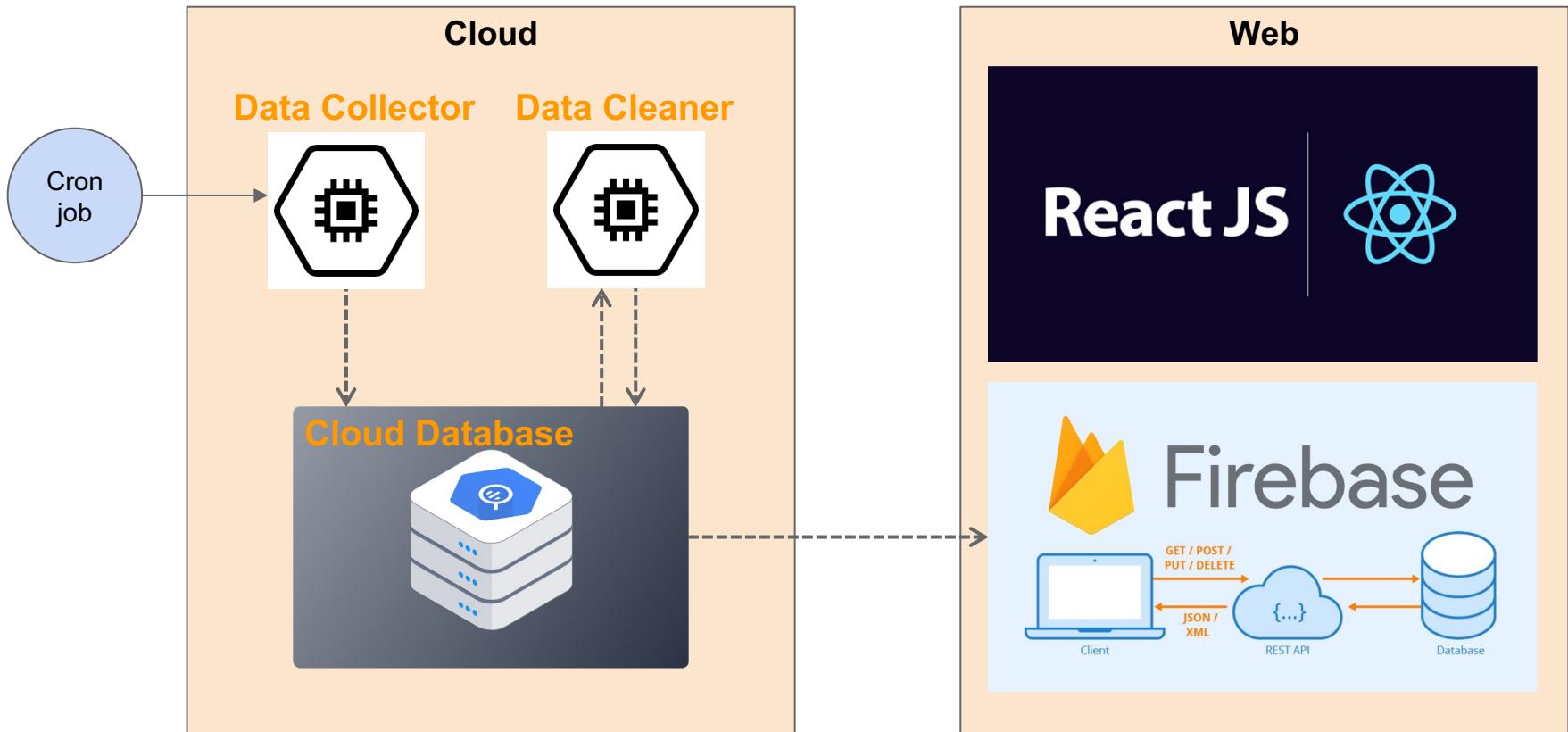
Principle		
Column 1	Column 2	Column 3
1 Priority	Category	Feature
2 ● High	Dashboard & Interface	Simple, interactive, easy-to-use dashboard
3 ● High	Dashboard & Interface	Visualizations of trends, categories, risk summaries
4 ● High	Dashboard & Interface	Executive summaries & charts must be standardized and clear
5 ● Medium	Business & Policy Intelligence	Strategic, cross-agency comparisons
6 ● Medium	Business & Policy Intelligence	Aggregate-level insights for business and policy
7 ● Low	Advocacy Support	Advocacy-friendly outputs (visual/datasets)

Functionality		
Column 1	Column 2	Column 3
1 Priority	Category	Feature
2 ● High	Data Structure	Download/export in CSV, JSON (with docs)
3 ● High	Advanced Filters	Filter by AI type, sector, agency
4 ● High	Advanced Filters	Vendor filters & agency/vendor mapping
5 ● Medium	Business & Policy Intelligence	Show project status, budget, procurement
6 ● Medium	Business & Policy Intelligence	Agency contact/reachout path info

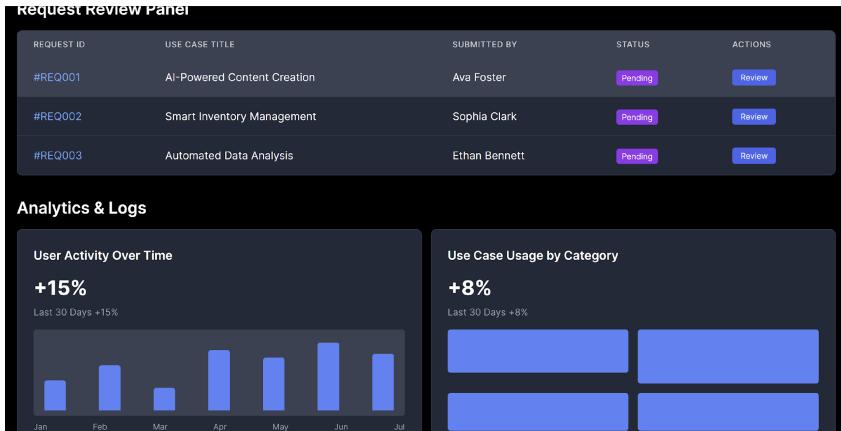
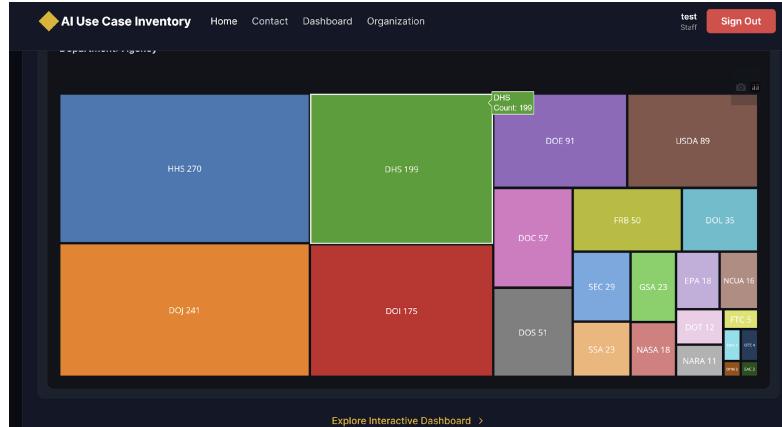
Overall Process



Development & Deployment



Development & Deployment



User Management

USER ID	NAME	EMAIL	ROLE	STATUS	ACTIONS
#12345	Sophia Clark	sophia.clark@email.com	Admin	Active	View
#67890	Ethan Bennett	ethan.bennett@email.com	User	Active	View
#11223	Olivia Carter	olivia.carter@email.com	User	Inactive	View
#44556	Liam Harper	liam.harper@email.com	User	Active	View
#77889	Ava Foster	ava.foster@email.com	User	Active	View

Future Work

Impact analysis: measuring how much each AI case makes impact

- Creating an AI impact framework based on the literature review
- Will refine the framework based on direct feedback from AI/Technology Officers from Governments

Credibility scores: a measure to show the credibility of each AI use case

- Initial scores based on cross-checked information
- Will improve the measures based on (1) procurement information and (2) incremental surveys with government staff

Comprehensive analytics to support AI strategies

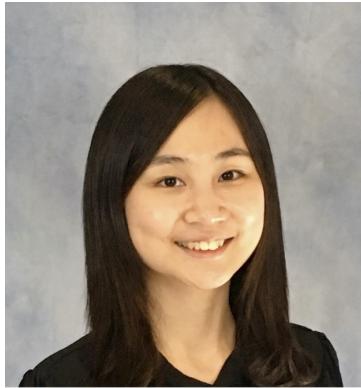
Team



Gie Lee
(Ph.D. Student)



Selina Feng
(Ph.D. Student)



Julia Hsu
(Ph.D. Student)

Advisors



Manish Malhotra



Richard Jacik



Ramesh Ponnada



Amarda Shehu

Undergrad Volunteers

- Hassan Ahmed
- Abhigya Goel

THANK YOU



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