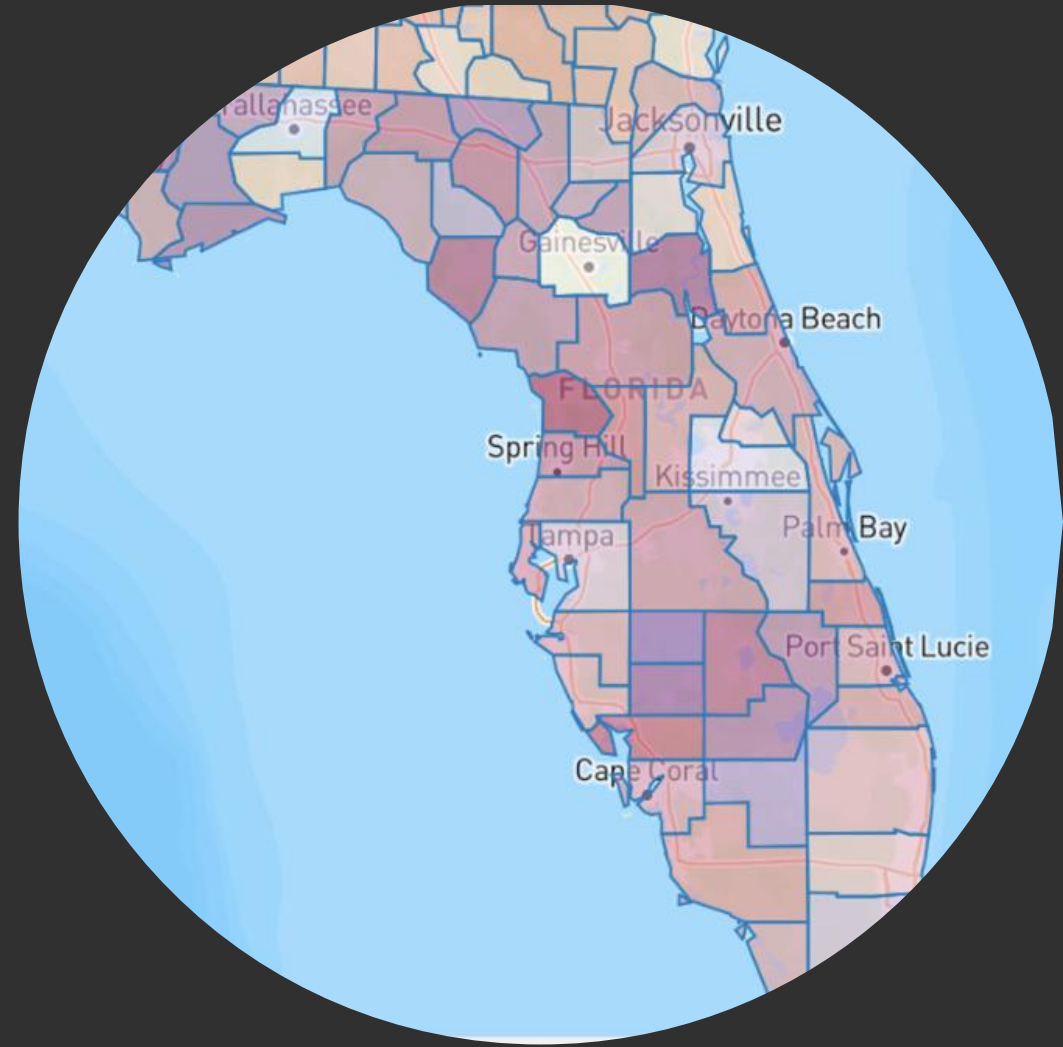


# Exploring the potential of AI to enable data-driven impact in local communities

caitlin@datakind.org



DataKind builds scalable  
solutions to advance  
social good.

# DataKind's reach

130+ partners to shape community wellbeing software

20+ university partners in 2024

Millions of dollars redeployed to communities

150+ research citations

450 projects in past 13 years

DataKind software deployed in 35+ countries

1. Solve the right problem
2. Plan for solution sustainability  
from the start
3. Meet your users where they are
4. Realize AI can take many shapes,  
and it is just one tool in our  
collective toolbox

**"IF YOU ADD DIGITAL,**

**ON TOP OF A THING THAT IS BROKEN,**

**YOU WILL HAVE A BROKEN DIGITAL THING."**

**ORG** OPEN RIGHTS GROUP



1

Solve the right  
problem

Image source: Heather Burns, via Patrick Meier

The need for humanitarian aid is enormous, urgent, and increasing.

Access to timely, reliable  
data can help.



# The Humanitarian Data Exchange

Find, share and use humanitarian data all in one place

	A	B	C	D	E	F	G	H
	Country	Country Pcode	STATE NAMES	State Pcode	LGA NAMES	TOTAL INNEED	# OF IDPs GIRLS	# OF IDPs BOYS
1	Nigeria	NGA	Adamawa	NG002	Demsa	22026	5,045	4,494
2	Nigeria	NGA	Adamawa	NG002	Fufore	6021	1,745	1,773
3	Nigeria	NGA	Adamawa	NG002	Ganye	892	256	258
4	Nigeria	NGA	Adamawa	NG002	Girei	16077	4,152	4,213
5	Nigeria	NGA	Adamawa	NG002	Gombi	206997	763	625
6	Nigeria	NGA	Adamawa	NG002	Guyuk	6402	2,065	1,153
7	Nigeria	NGA	Adamawa	NG002	Hong	272088	1,277	1,066
8	Nigeria	NGA	Adamawa	NG002	Jada	466	161	131
9	Nigeria	NGA	Adamawa	NG002	Lamurde	20545	1,072	775
10	Nigeria	NGA	Adamawa	NG002	Madagali	166712	6,674	4,872
11	Nigeria	NGA	Adamawa	NG002	Maiha	110154	4,895	4,745
12	Nigeria	NGA	Adamawa	NG002	Mayo-Belwa	1826	468	327
13	Nigeria	NGA	Adamawa	NG002	Michika	229885	6,605	5,143
14	Nigeria	NGA	Adamawa	NG002	Mubi North	195347	2,761	2,764
15	Nigeria	NGA	Adamawa	NG002	Mubi South	202314	1,742	1,521
16	Nigeria	NGA	Adamawa	NG002	Numan	144946	2,483	1,998
17	Nigeria	NGA	Adamawa	NG002	Shelleng	2160	634	598
18	Nigeria	NGA	Adamawa	NG002	Song	36116	1,043	823
19	Nigeria	NGA	Adamawa	NG002	Teungo	421	116	101
20	Nigeria	NGA	Adamawa	NG002	Yola North	9672	3,437	2,355
21	Nigeria	NGA	Adamawa	NG002	Yola South	24074	6,830	6,393
22	Nigeria	NGA	Borno	NG008	Abadam	34967	0	0
23	Nigeria	NGA	Borno	NG008	Askira/Uba	279366	4,145	3,850
24	Nigeria	NGA	Borno	NG008	Bama	150050	19,605	18,016
25	Nigeria	NGA	Borno	NG008	Bayo	3506	232	209
26	Nigeria	NGA	Borno	NG008	Biu	103505	12,958	11,039
27	Nigeria	NGA	Borno	NG008	Chibok	124741	4,294	4,177
28	Nigeria	NGA	Borno	NG008	Dambo	134923	27,235	22,099
29	Nigeria	NGA	Borno	NG008	Dikwa	122545	23,157	18,895
30	Nigeria	NGA	Borno	NG008	Gubio	168539	1,671	1,250
31	Nigeria	NGA	Borno	NG008	Guzamala	96043	523	503
32	Nigeria	NGA	Borno	NG008	Gwoza	241954	38,675	31,628
33	Nigeria	NGA	Borno	NG008	Hawul	226644	6,100	5,449
34	Nigeria	NGA	Borno	NG008	Jere	808654	74,808	60,998
35	Nigeria	NGA	Borno	NG008	Kaga	123660	6,275	5,308
36	Nigeria	NGA	Borno	NG008				

Humanitarian Exchange Language  
version 1.1  
hxlistandard.org  
#HXL

### Places

**#region** multi-country area (e.g. Sahel)  
**#country** country or country-like entity  
**#adm1...#adm5** administrative subdivision  
 e.g. #adm2 +name admin level 2 name  
 e.g. #adm2 +code admin level 2 p-code  
**#loc** place (e.g. camp, town, clinic)  
**#geo** geographical information  
 e.g. #geo +lon longitude

### Surveys and assessments

**#indicator** aid indicator name/ value/ code  
**#respondee** person/ household/ etc. surveyed  
**#population** total people/ households  
**#affected** number affected  
 e.g. #affected +f female people affected  
**#inneed** number in need of help  
**#targeted** number targeted for help  
**#reached** number reached with help  
**#beneficiary** info about a beneficiary group  
**#item** thing stored, provided, sold, etc  
**#need** thing req'd by affected people  
**#service** service used by affected people  
**#impact** crisis or event impact

**Misc.** **#date** date or period **#status** e.g. "active" **#description** general text **#meta** gen. metadata

### Responses and other operations

**#org** humanitarian organization  
**#contact** contact info for a person or org  
**#sector** humanitarian sector or cluster  
**#subsector** humanitarian subsector  
**#activity** programmes, project, etc  
**#output** activity output or outcome  
**#frequency** how often something happens  
**#capacity** response capacity (e.g. # beds)  
**#access** access to a place or resource  
**#operations** any other operational info

### Cash and finance

**#value** money value (e.g. price, budget)  
**#currency** financial currency in use  
**#modality** main aid category (e.g. cash)  
**#channel** delivery means (e.g. smartcard)

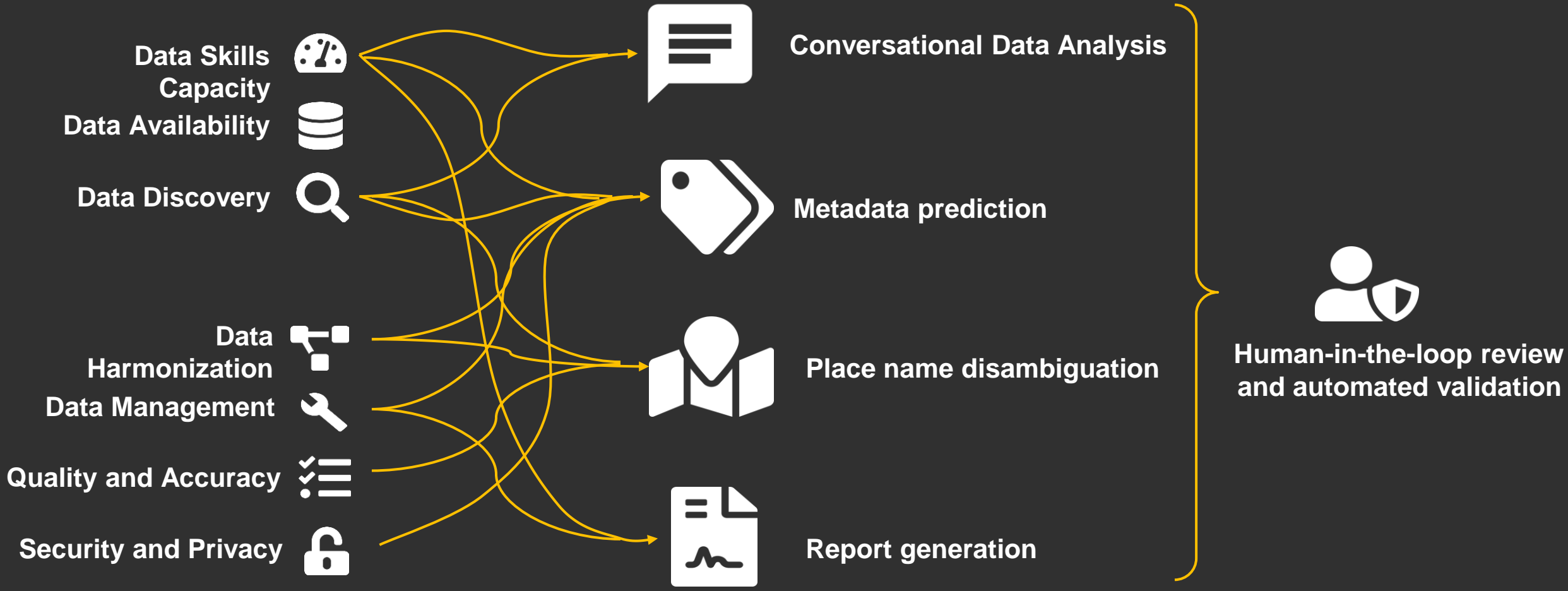
### Crises, incidents, and events

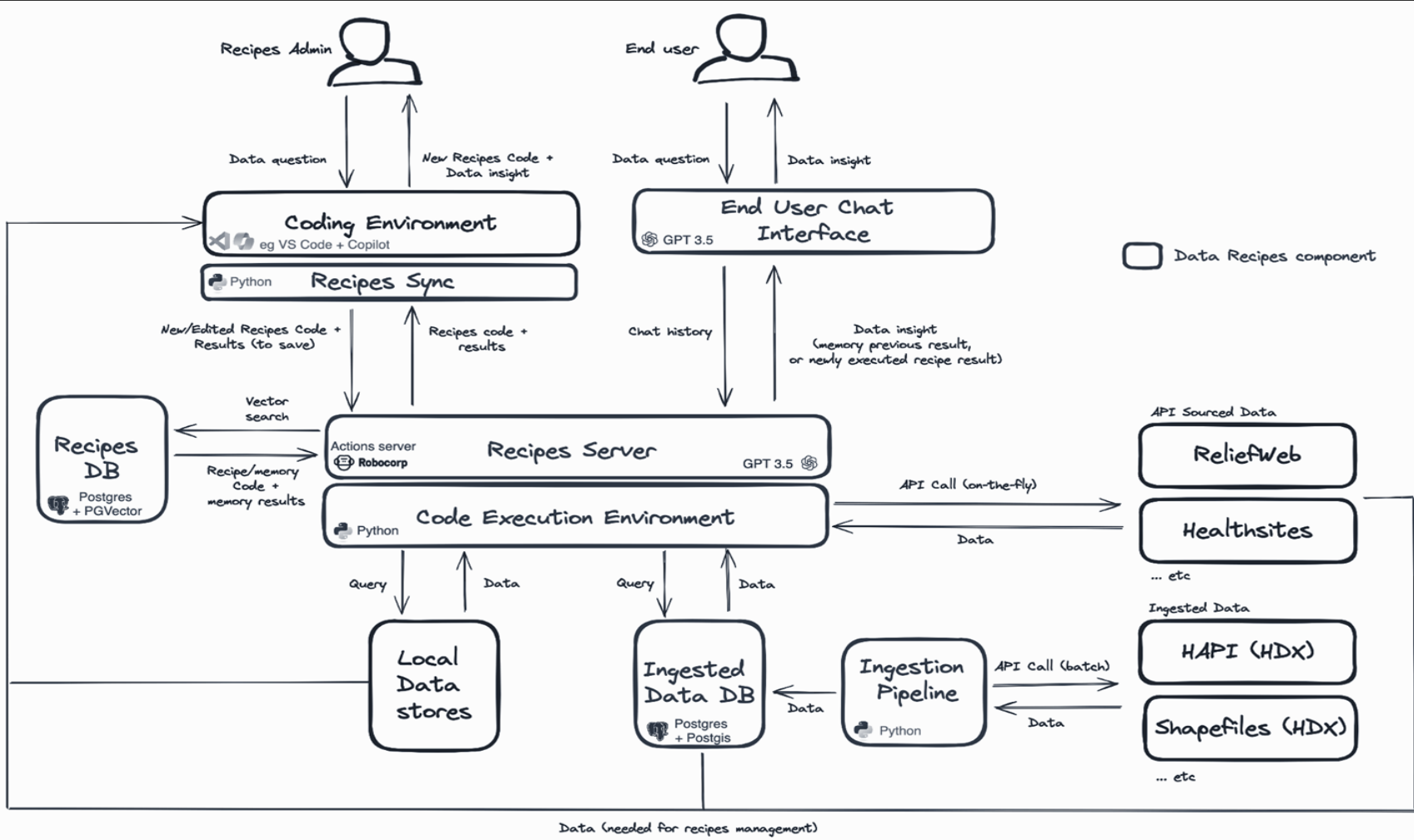
**#crisis** primary crisis name/ code  
**#event** sub-incident within a crisis  
**#group** non-relief actor (e.g. militia)  
**#cause** crisis or event cause  
**#severity** crisis or event severity

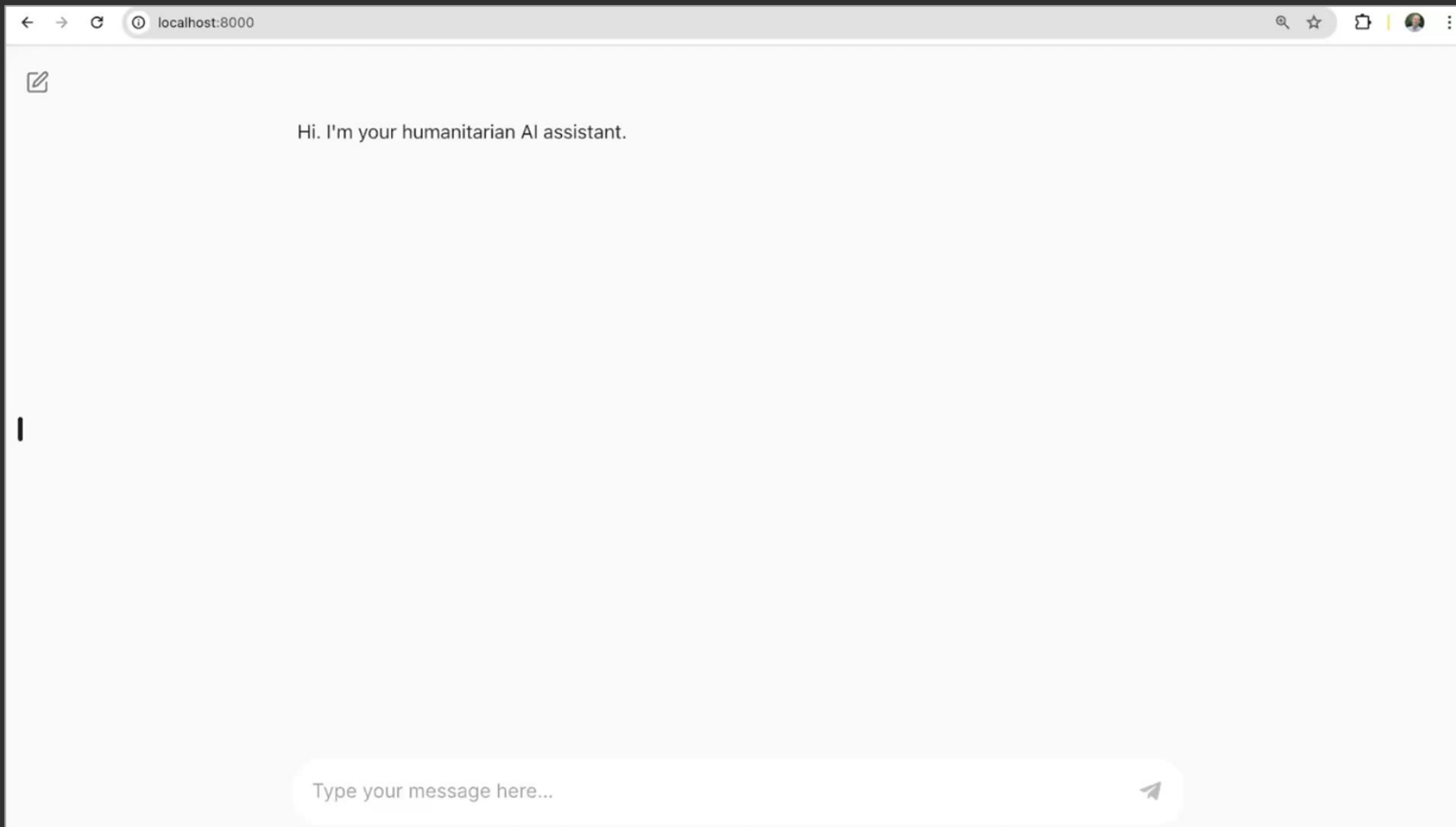
# #HXL

a simple standard for messy data

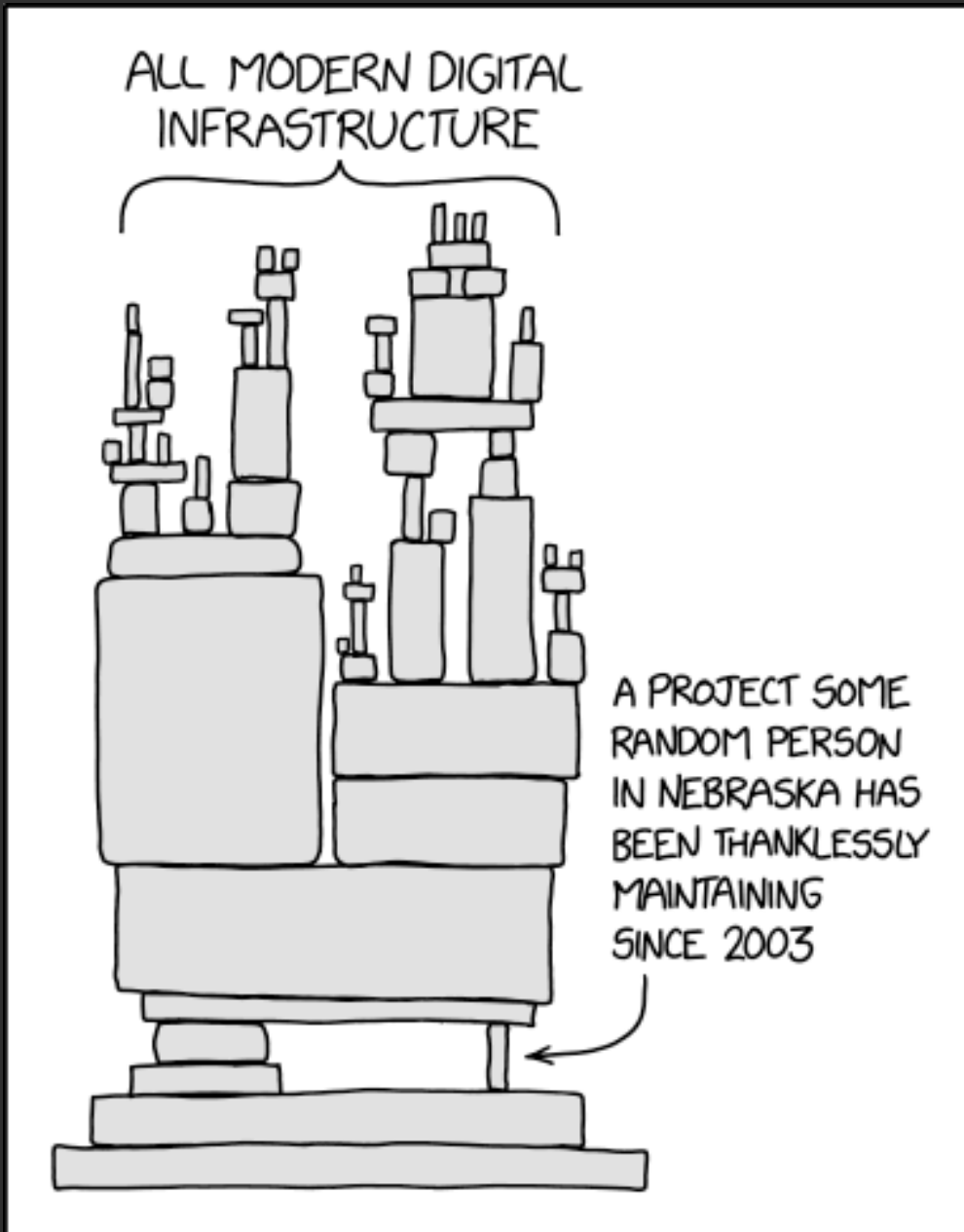








The Humanitarian AI Assistant was created with seven humanitarian organizations, representing 80% of humanitarian response globally. **HDIP simplifies decision-making by simplifying access to thousands complex datasets.**



2

Plan for solution sustainability from the start

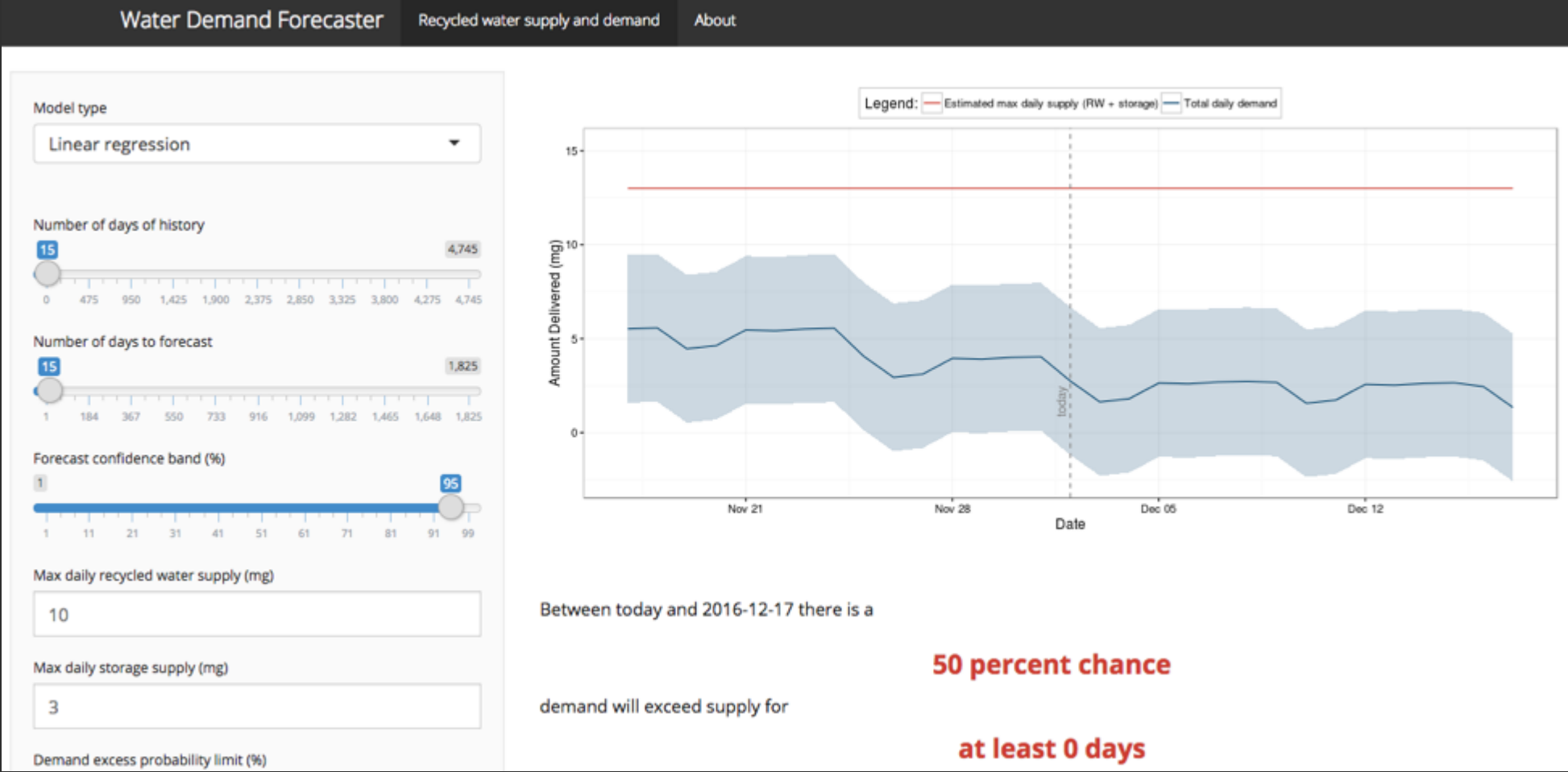




 moulton niguel  
water district



The Water Demand Forecaster connects municipal data with external climate and weather data to build a forecast using machine learning to predict demand so as to manage local supply effectively. Moulton Niguel Water District has saved over \$5M / year relative to baseline after implementing these predictive tools.



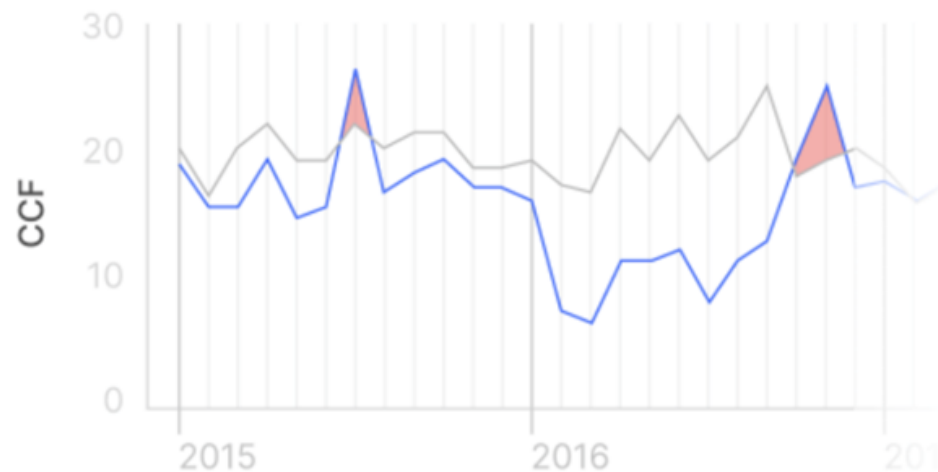


## Gain clarity on water usage by setting goals, analyzing trends, and benchmarking customer usage with precision

- ✓ Calculate your Water Use Objective to stay on track
- ✓ Gain insight, then act decisively
- ✓ Compare customer usage to budgets or neighbors for reference
- ✓ Track usage over time, seasonally, & with local weather comparison

### Annual Trends: Budget vs Usage

● Budget ● Usage ● Over Budget



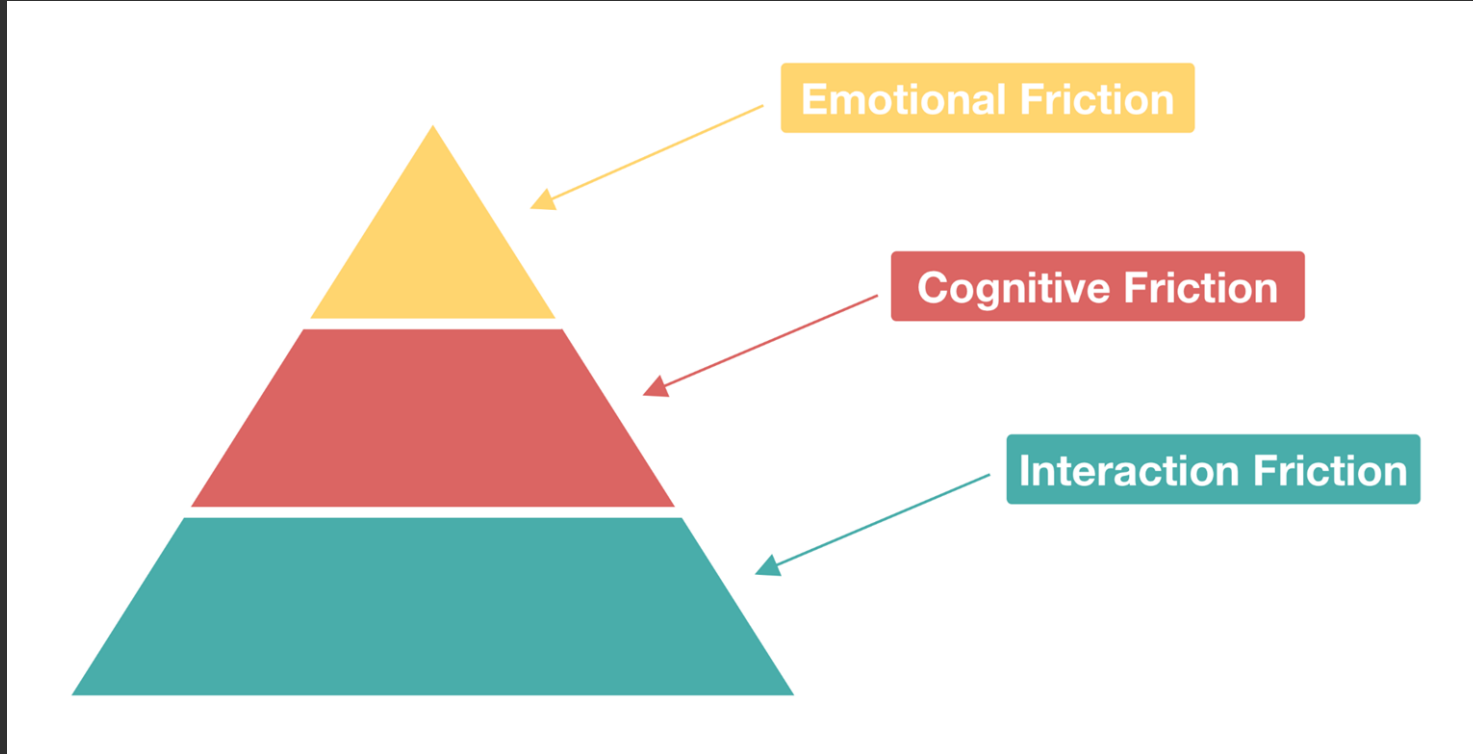


Image source: Sachin Rekhi via Tyler Wince

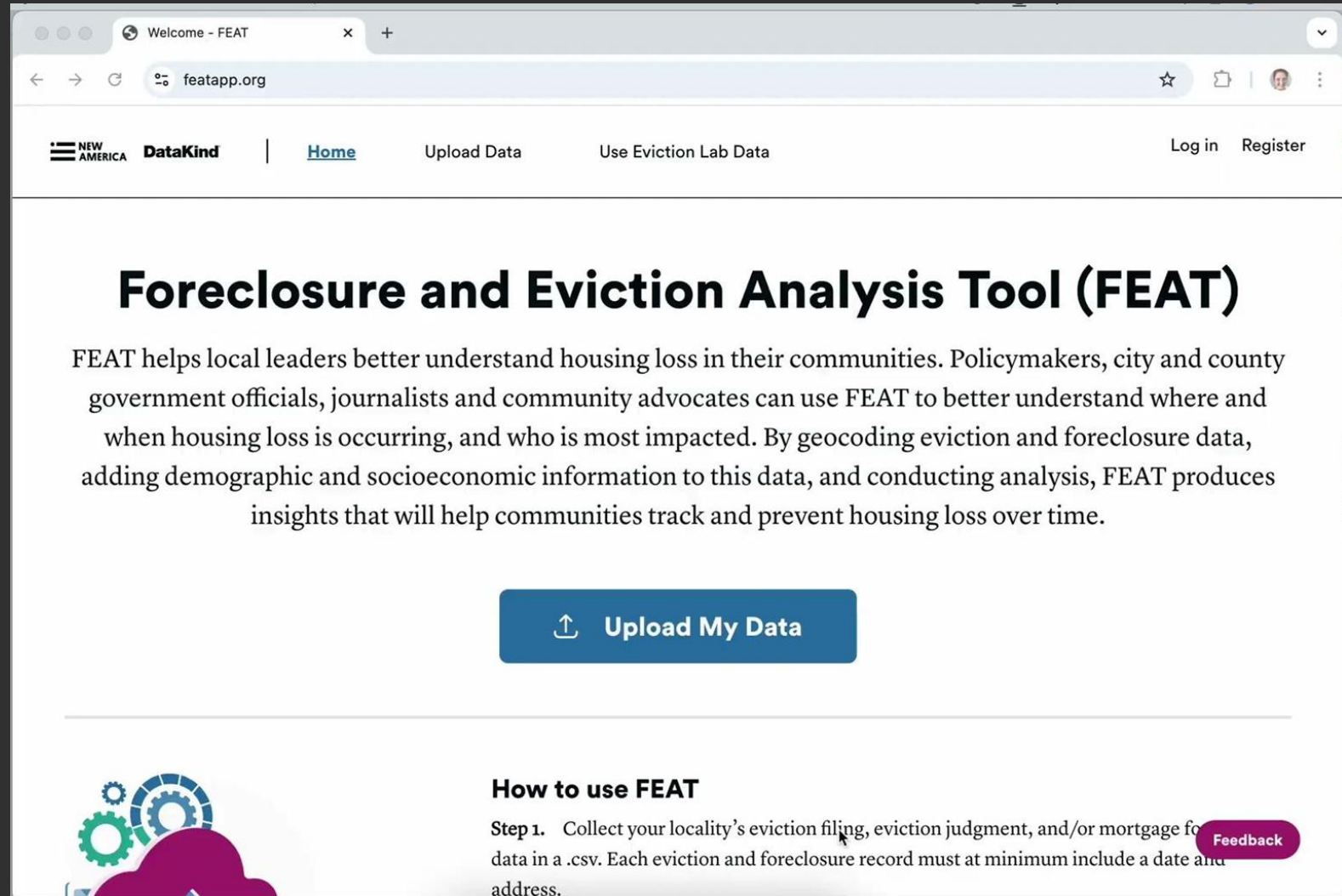
3

Meet your users  
where they are



## User-driven design includes:

- no-code interface
- single sign on
- drag-and-drop upload
- activity dashboard with saved analysis
- visualizations, analysis, and interpretations for each upload
- accessible analysis of Eviction Lab data without upload for 9 states and 29 cities



The screenshot shows a web browser window with the URL `featapp.org`. The page features a navigation bar with the DataKind logo, a 'Home' link, 'Upload Data', and 'Use Eviction Lab Data' options, along with 'Log in' and 'Register' buttons. The main heading is 'Foreclosure and Eviction Analysis Tool (FEAT)'. Below this, a paragraph explains that FEAT helps local leaders understand housing loss by geocoding and analyzing eviction and foreclosure data. A prominent blue button labeled 'Upload My Data' is centered on the page. At the bottom, a 'How to use FEAT' section begins with 'Step 1. Collect your locality's eviction filing, eviction judgment, and/or mortgage foreclosure data in a .csv. Each eviction and foreclosure record must at minimum include a date and address.' A 'Feedback' button is visible in the bottom right corner.

### Foreclosure and Eviction Analysis Tool (FEAT)

FEAT helps local leaders better understand housing loss in their communities. Policymakers, city and county government officials, journalists and community advocates can use FEAT to better understand where and when housing loss is occurring, and who is most impacted. By geocoding eviction and foreclosure data, adding demographic and socioeconomic information to this data, and conducting analysis, FEAT produces insights that will help communities track and prevent housing loss over time.

[Upload My Data](#)

#### How to use FEAT

**Step 1.** Collect your locality's eviction filing, eviction judgment, and/or mortgage foreclosure data in a .csv. Each eviction and foreclosure record must at minimum include a date and address.

[Feedback](#)

**1,852**

users

**4,072**

sessions

**490**

cities

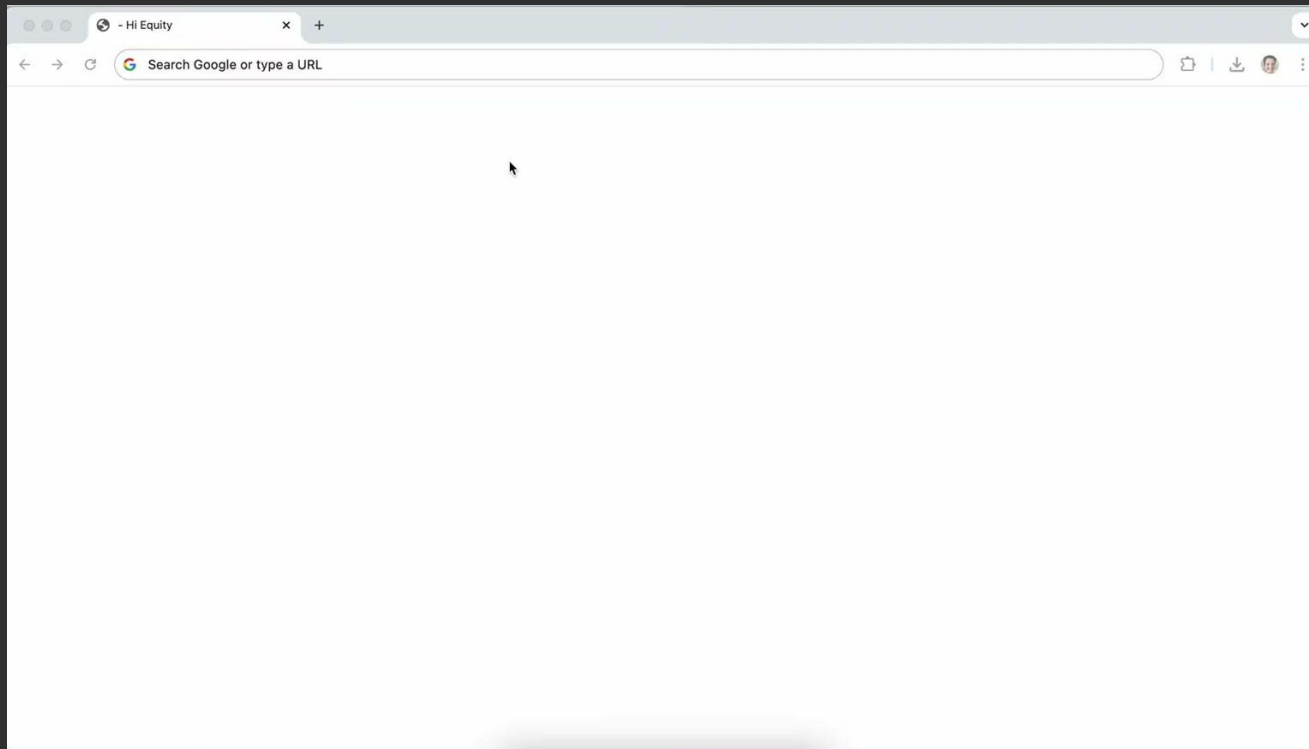
November 2024 all-up reporting

In Florida, this led to disaster resilience assessments and an interactive dashboard designed to help understand the **risk of affordable housing loss post-disaster.**



Department of Homeland Security, 2022

This also led to a now-national tool called HI Equity (health indicators for equity) that enables access standardized data on target communities of impact and **taking meaningful action while promoting equity.**







4

Realize  
AI can take many  
shapes, and it is just  
one tool our  
collective toolbox.

Image source: Hans Hollein, via Scott Berkun

Thank you.

# Resources (representative)

- Products
  - <https://www.colandrcommunity.com/>
  - <https://www.featapp.org/>
  - <https://hiequitymap.org/>
  - <https://github.com/datakind/Data-Observation-Toolkit>
  - <https://hdip.datakind.org>
- Publications
  - <https://digitalcommons.wcupa.edu/jarihe/vol7/iss1/2/>
  - [https://academic.oup.com/oodh/article/2/Supplement\\_2/ii25/7911912](https://academic.oup.com/oodh/article/2/Supplement_2/ii25/7911912)
  - <https://www.tandfonline.com/toc/uha20/34/3>
  - <https://conbio.onlinelibrary.wiley.com/doi/10.1111/cobi.13117>
  - [https://ssir.org/articles/entry/how\\_the\\_social\\_sector\\_can\\_use\\_natural\\_language\\_processing](https://ssir.org/articles/entry/how_the_social_sector_can_use_natural_language_processing)
  - <https://www.weforum.org/stories/2024/10/digital-technology-framework-advancing-data-equity/>

A few  
favorite  
GenAI  
resources  
from  
DataKind's  
community

- + [DataKind webinar](#) introducing GenAI
- + Algorithmic Justice League's (AJL's) [equitable & accountable AI Definition](#)
- + [Report on GenAI for humanitarians](#)
- + WEF Data Equity: [Foundational Concepts for Generative AI](#)
- + [Technical blogs](#) for DataKind's GenAI project work
- + Ted talk on "[The magical AI assistants of the future — and the engineering behind them](#)"
- + [A Matrix for Selecting Responsible AI Frameworks](#)
- + DataKind's [Playbook](#)