
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

AIM304

Get the most out of your data with ML-powered search

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What is Intelligent Search?

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Critical information is getting harder to find

80%

of data at the enterprise is **unstructured** **(documents, help website, support documentation, and so on)**[1]

It is proliferating and often scattered and inaccessible

Customer challenges



Inaccurate keyword search



Complex implementation



Manual tuning



Ongoing maintenance

[1] Capgemini, Reorganizing unstructured data

Intelligent Search

with Amazon Kendra

EASY TO FIND WHAT YOU ARE LOOKING FOR



Natural language queries

Intuitive search within unstructured content

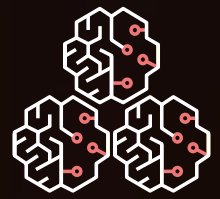


NLU and machine learning (ML) core

Instant answers

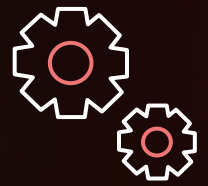
FAQ matching

Document ranking



Broad domain expertise

Pre-trained for 14 domains and industries



Continuous improvement

Incrementally learns from user feedback

QUICK SETUP



Accelerators

Native and partner connectors

Automate ingestion with custom metadata enrichment

No-/low-code UI builder

SECURE



Secure search

Encrypted in transit and rest

Token-based access control

AWS IAM Identity Center (successor to AWS Single Sign-On) integration

aws

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Amazon Kendra native connectors

Native connectors make it easy to synchronize data from multiple content repositories at a negligible cost

Amazon Relational Database Service (Amazon RDS)

Amazon Simple Storage Service (Amazon S3)

Atlassian Confluence

Atlassian Confluence Cloud

Microsoft OneDrive

Microsoft SharePoint Online

ServiceNow

Salesforce

Google Drive

Customer Data Source Connector

Alfresco

Web Crawler

Microsoft SharePoint 2013 Connector

Microsoft SharePoint 2016 Connector

Amazon WorkDocs Connector

Box

Zendesk

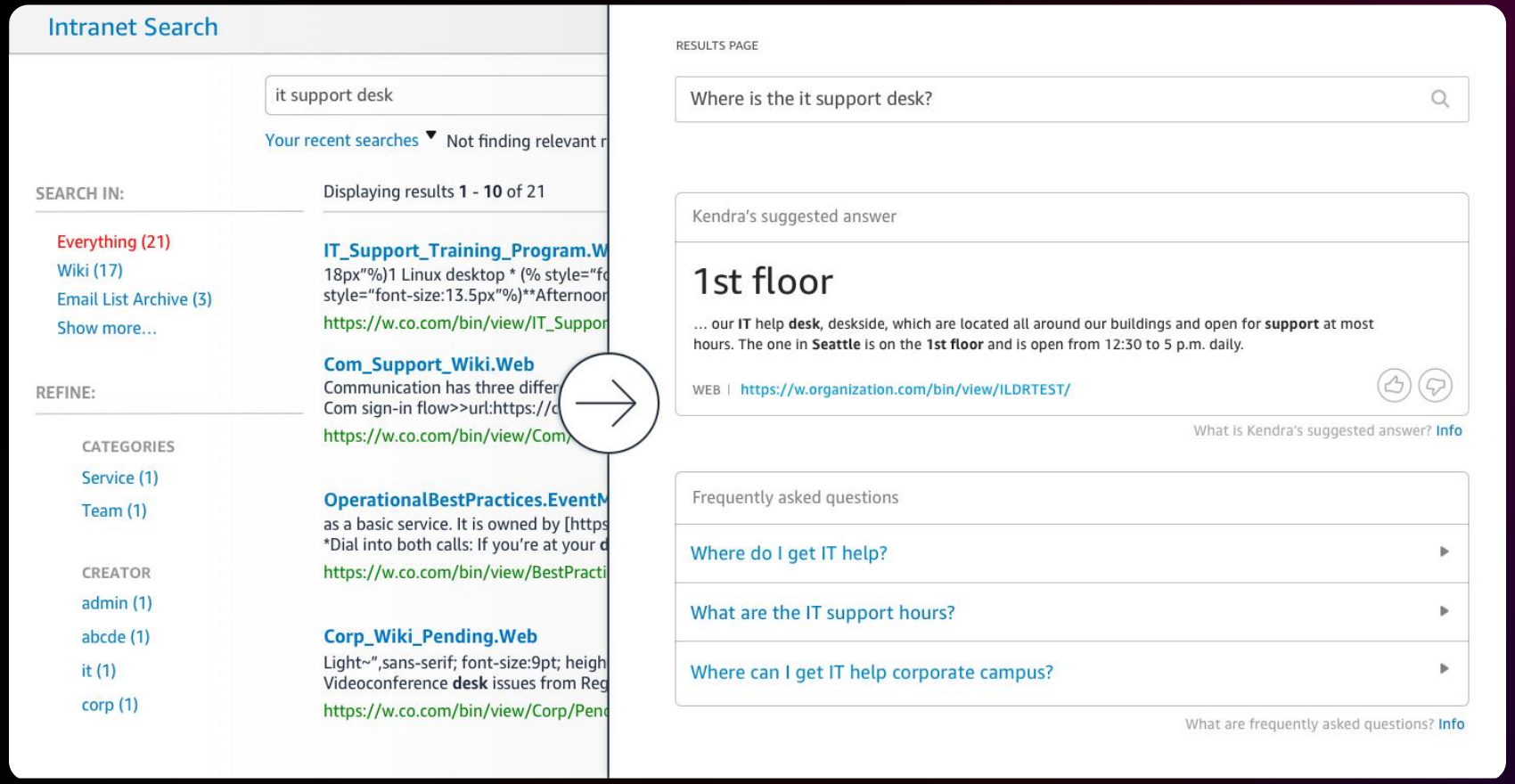
Over 100 built-in and partner connectors available for Kendra.
Visit the Amazon Kendra Connectors webpage to learn more about our extensive connector library.

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Intelligent Search

Finding accurate answers quickly

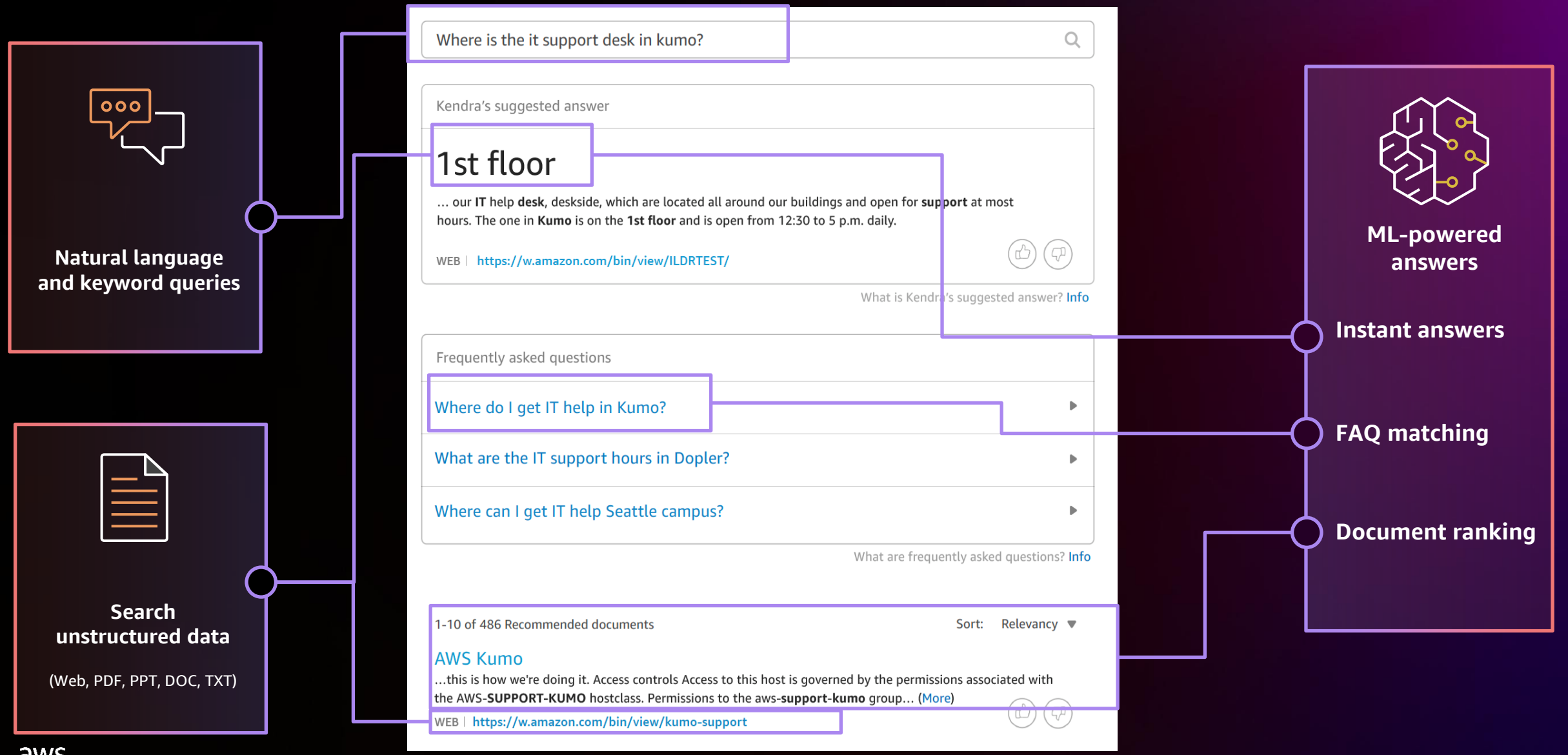
Traditional search



Intelligent Search

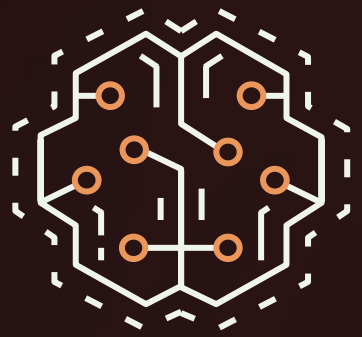
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Better experience through better answers



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Tune search relevance

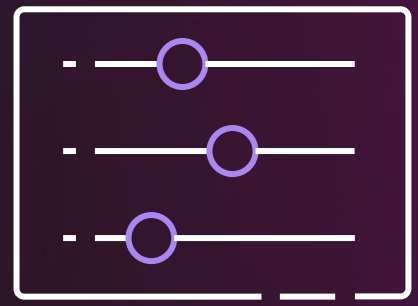


Incremental learning (out of the box)

Learns from previous user interactions

Re-ranks preferred documents

No need for ML expertise



Tuning, content boosting, and synonyms

Boost based on data sources, authors, document freshness, and more

Tunes at the entire index or query level

Import custom and business-related synonyms

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Top use cases

Employee experience

Intranet portal

Department-focused

Customer experience

Call center agent assist

Self-service virtual agents/bots

Website search

qualtrics XM

Embedded search

ISV/SaaS applications

CMS, CRM, productivity apps

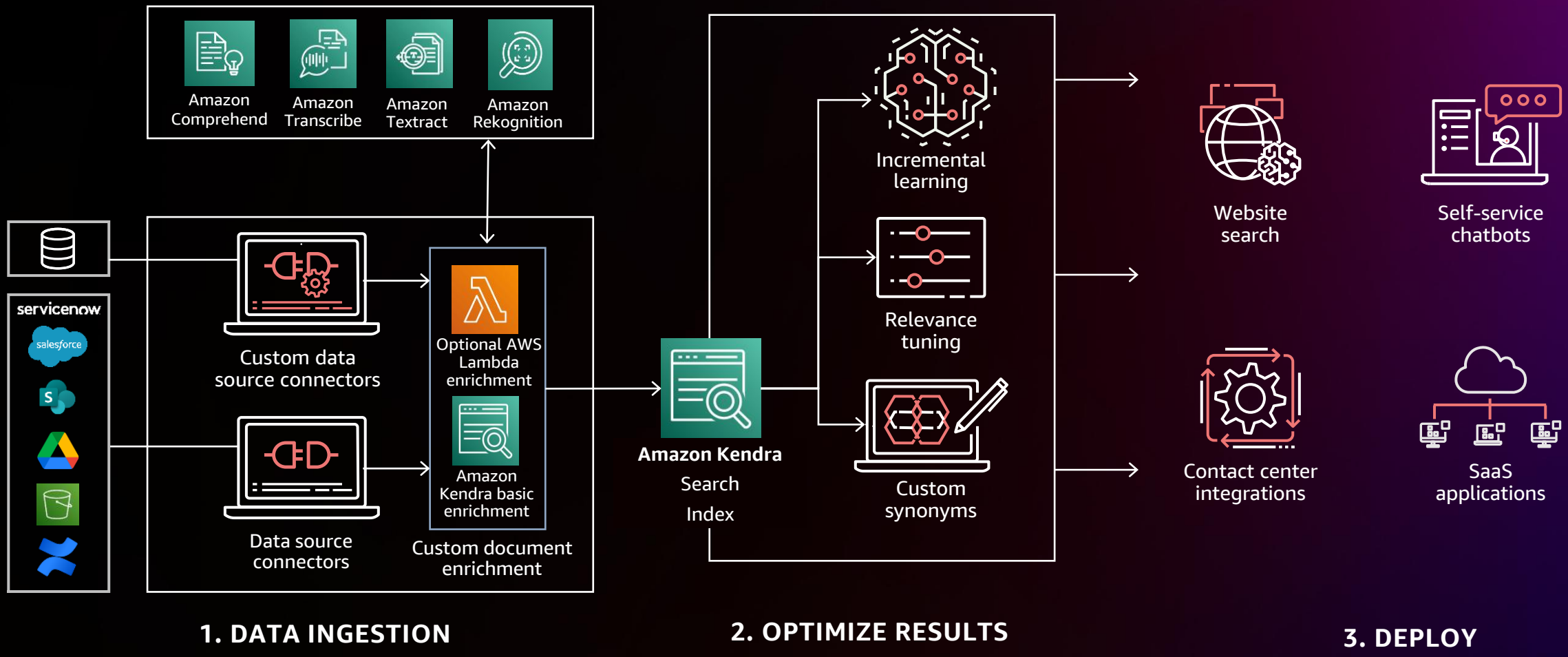
ORION HEALTH

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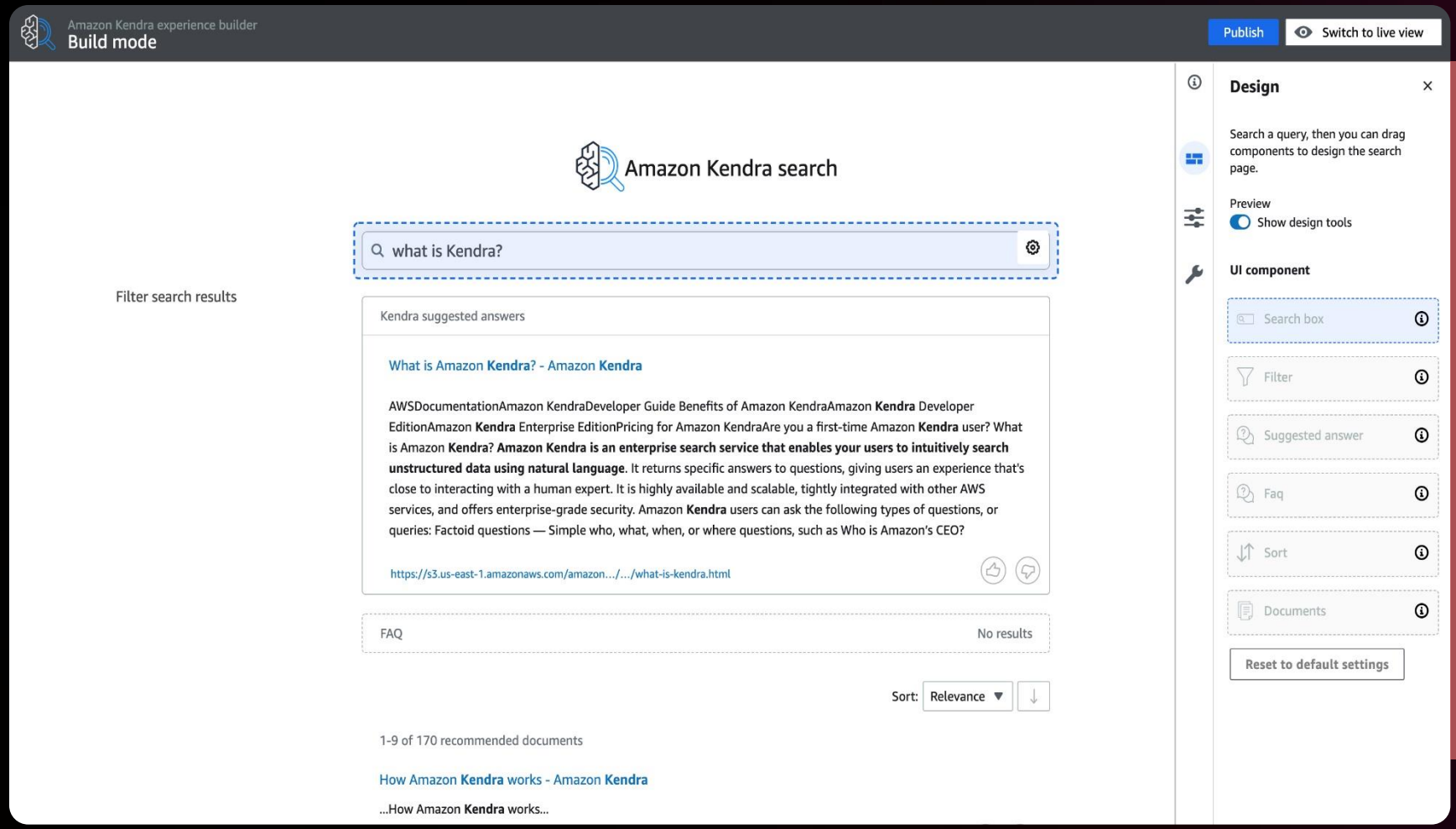
Amazon Kendra

BUILDING AN INTELLIGENT SEARCH APPLICATION



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Amazon Kendra Experience Builder

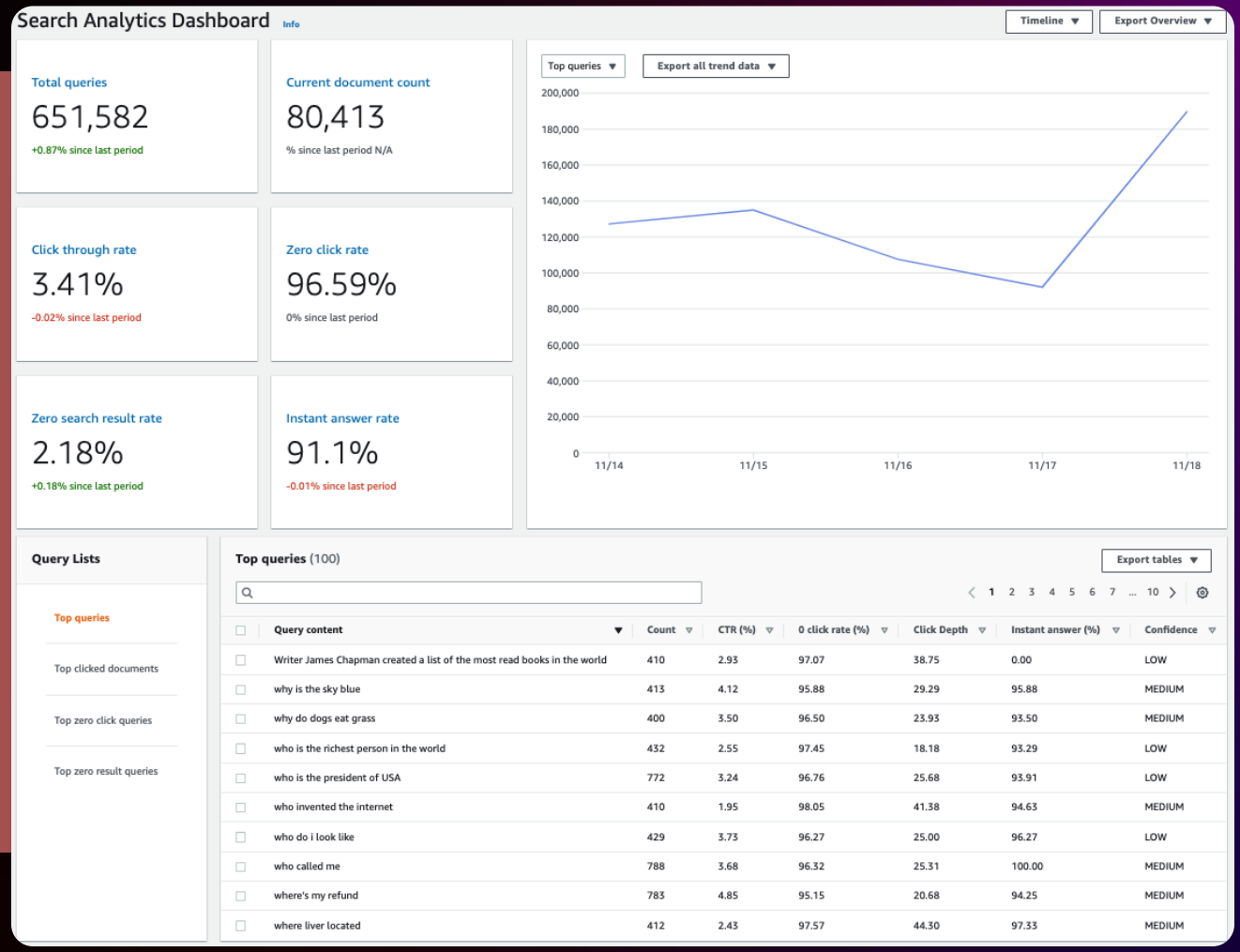


- ✓ Deploy Amazon Kendra search UI in a few clicks
- ✓ Drag-and-drop search UI builder
- ✓ IAM Identity Center integration for secure access and search filtering
- ✓ Fully managed/hosted
- ✓ No ML or coding expertise needed

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Amazon Kendra Search Analytics Dashboard

- Key quality and usability metrics
- Helps admins and content creators
  - Understand how easily users are finding relevant search results
  - Quality of the search results
  - Gaps in the content
  - Role of instant answer in providing answers to users' results
- Viewed in the console dashboard or accessed through an API



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Intelligent Search

Value proposition

Increased employee productivity and customer satisfaction

- Time savings from not having to open documents to find answers
- Cost savings through faster answer retrieval and risk mitigation

Lower total cost of ownership (TCO)

- ML-powered search service
- Fully managed service
  No ML experience required
- Built-in connectors to popular repositories for quick and cost-effective data aggregation
- Built-in search Experience Builder for code-free deployments

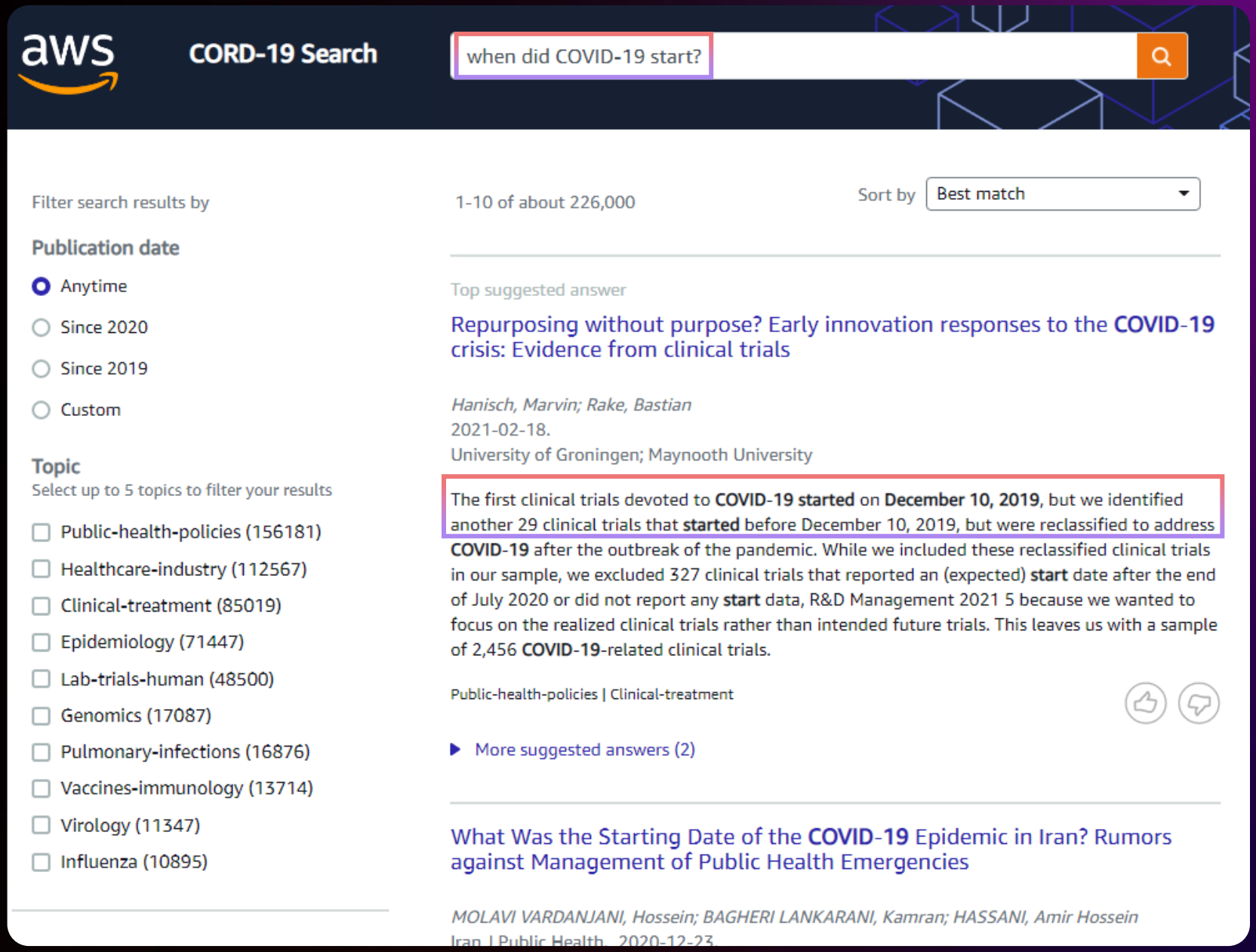
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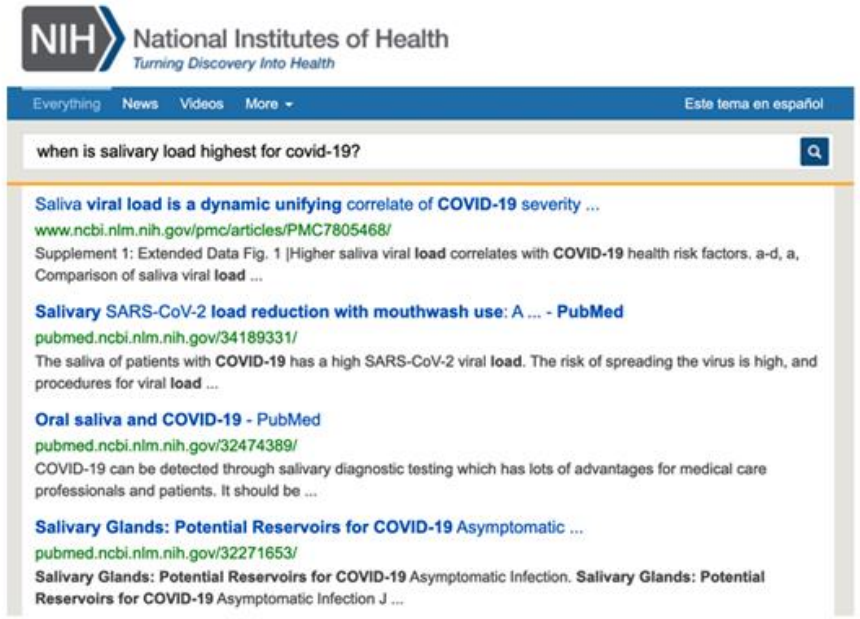
High accuracy out of the box across a wide range of domains

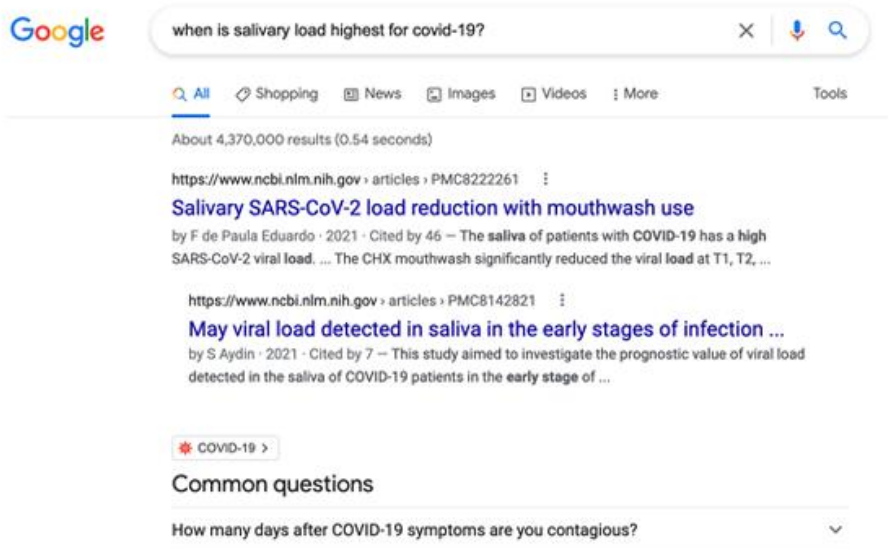
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Medical data

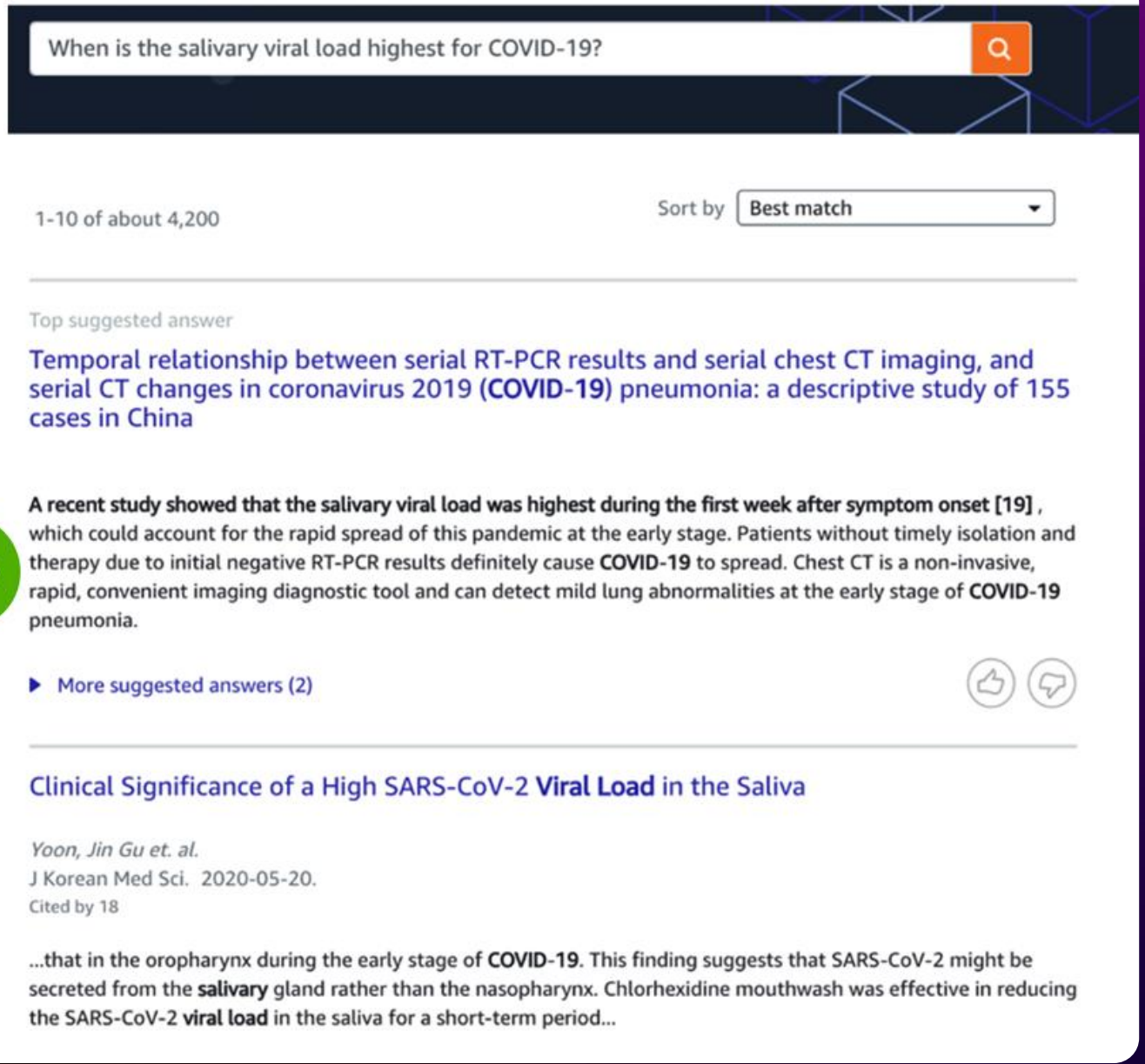


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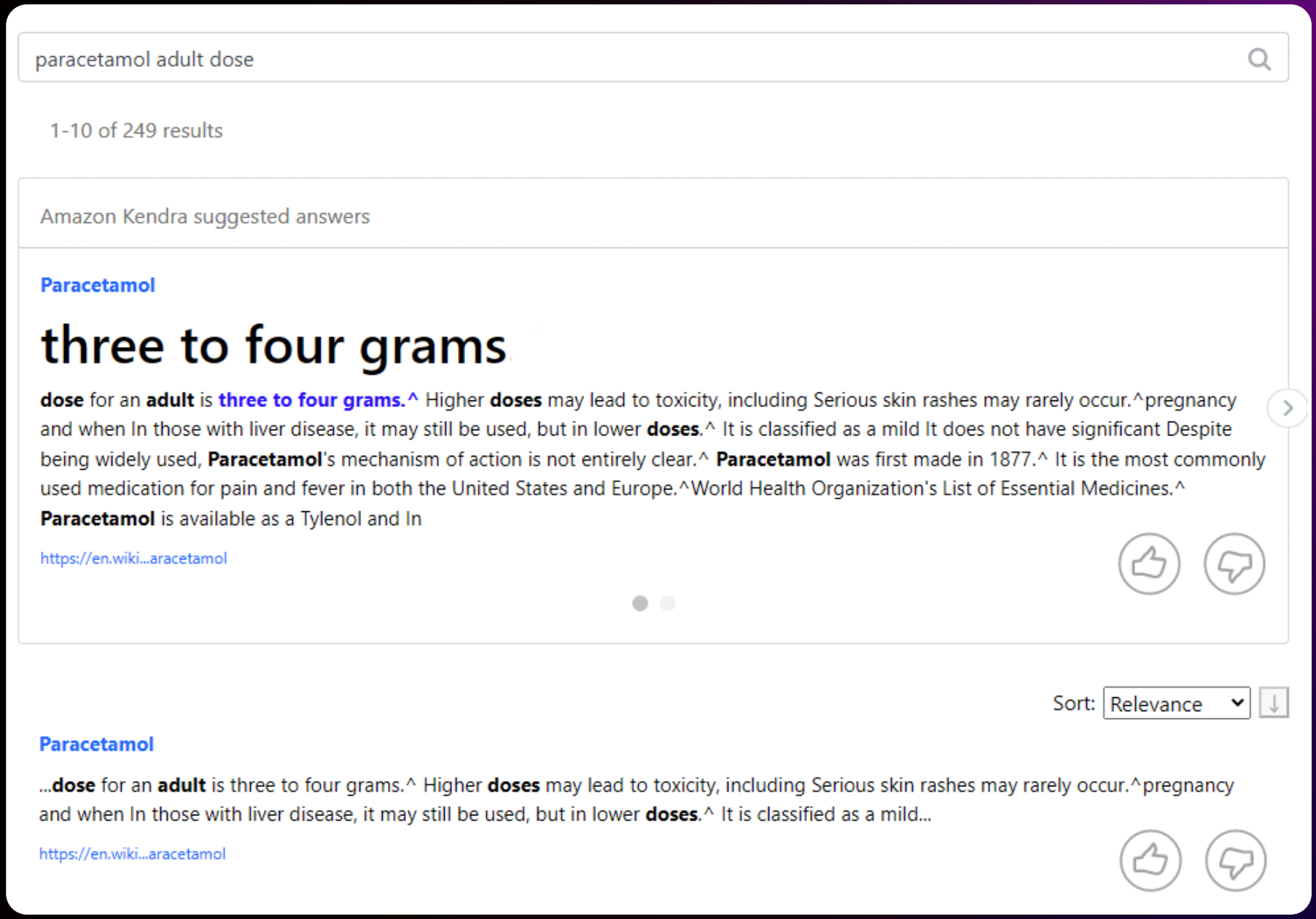




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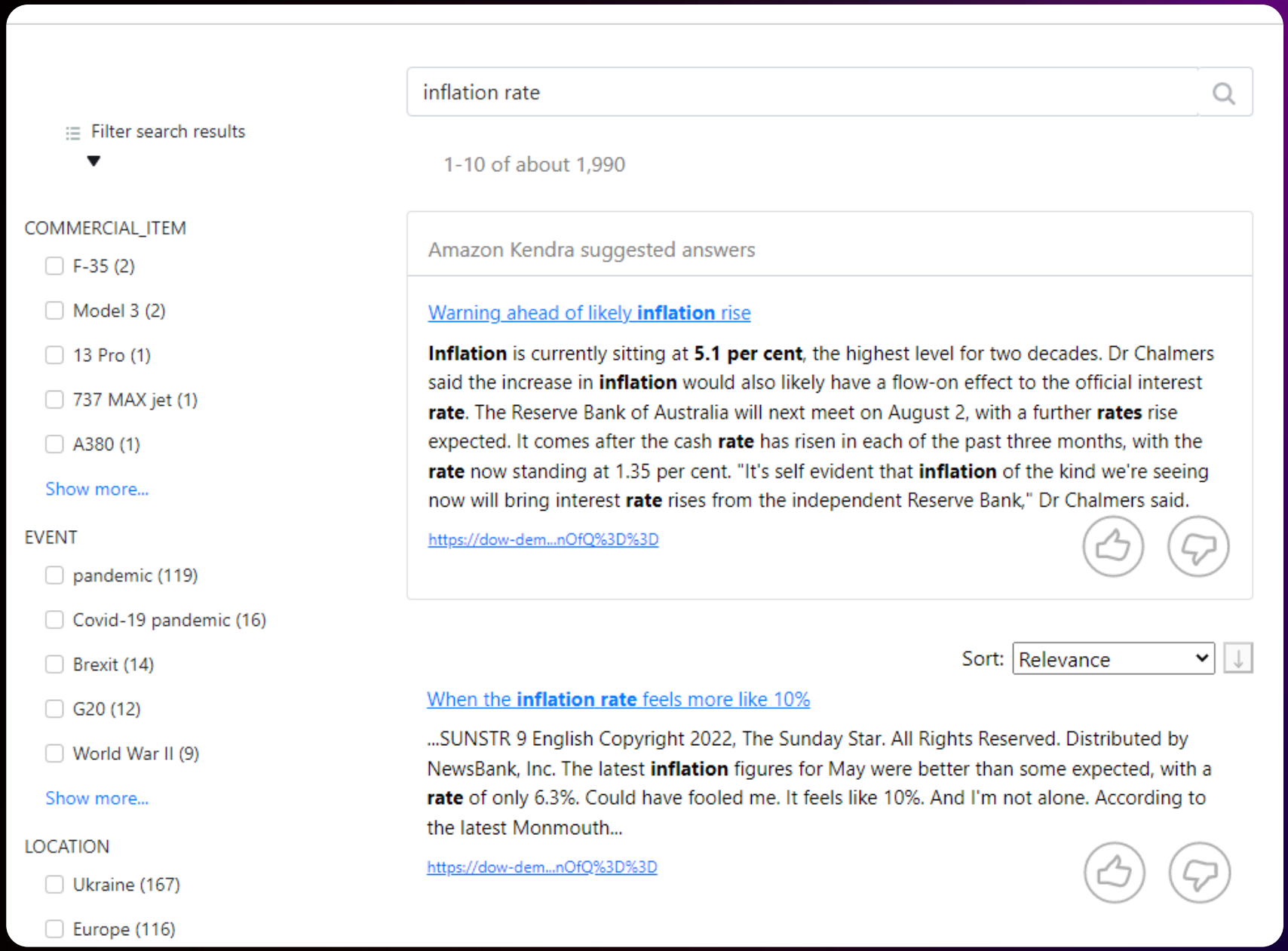
Medical data

Wiki



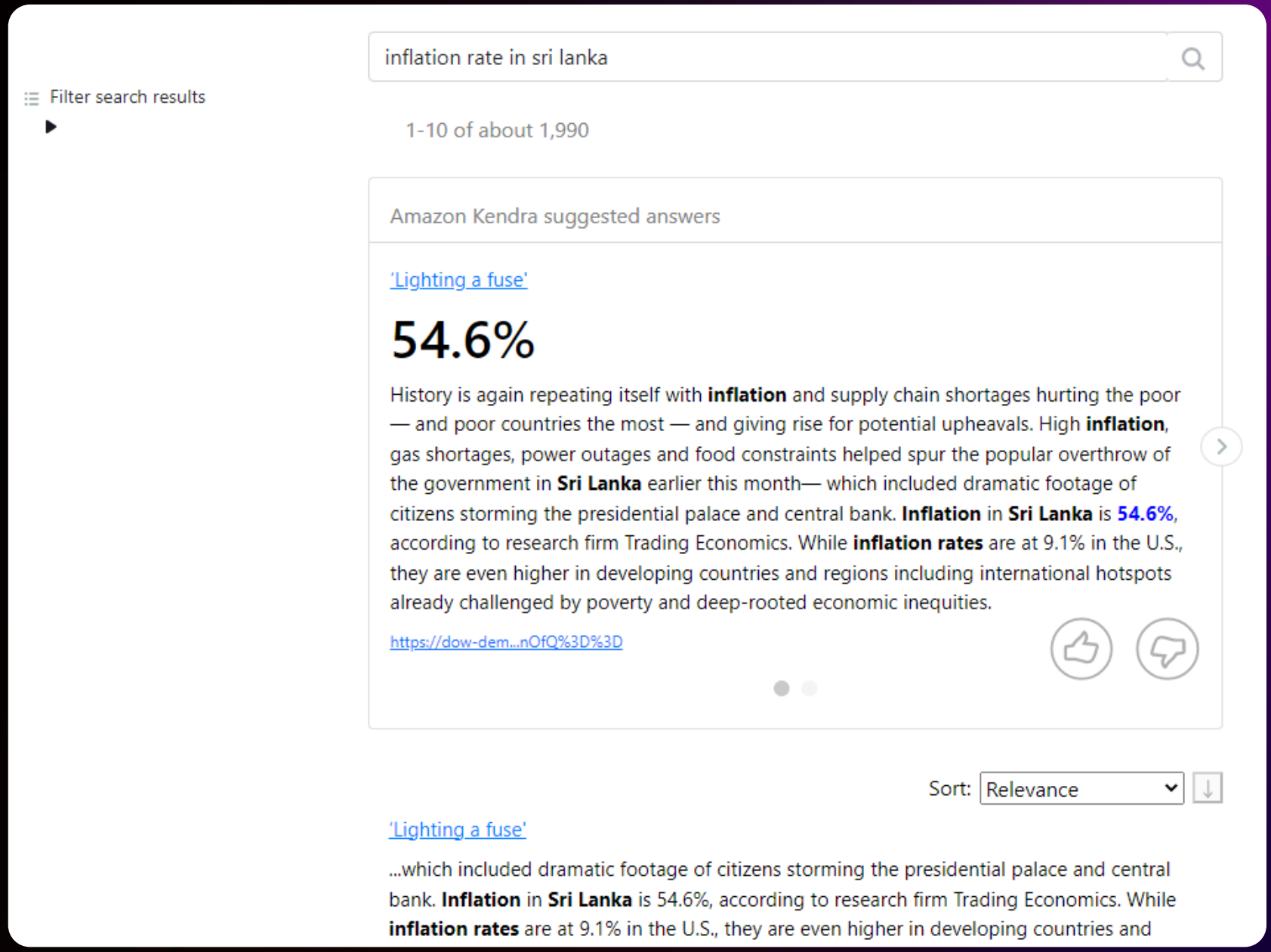
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Web news
Financial data



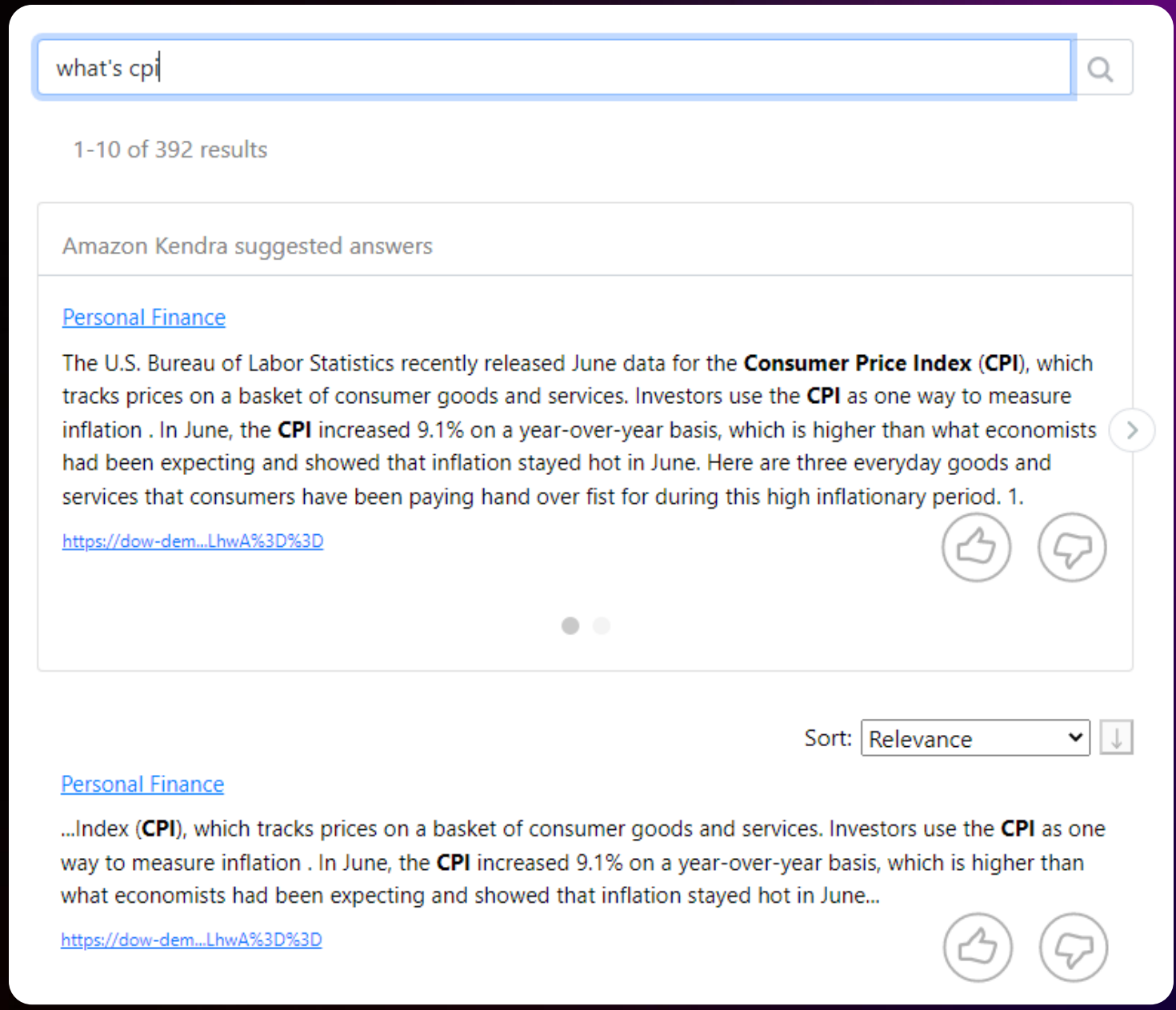
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Web news
Financial data



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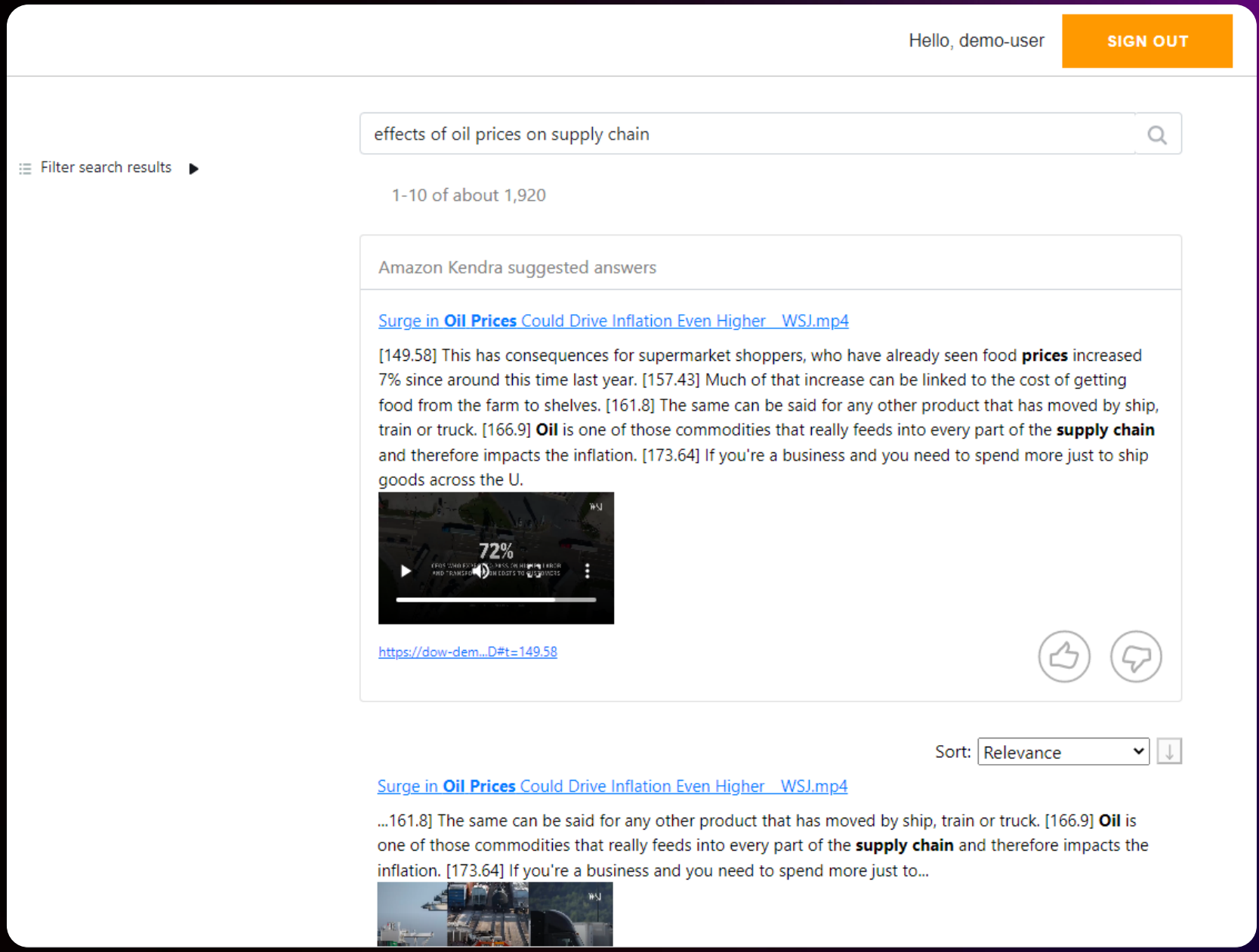
Web news
Financial data



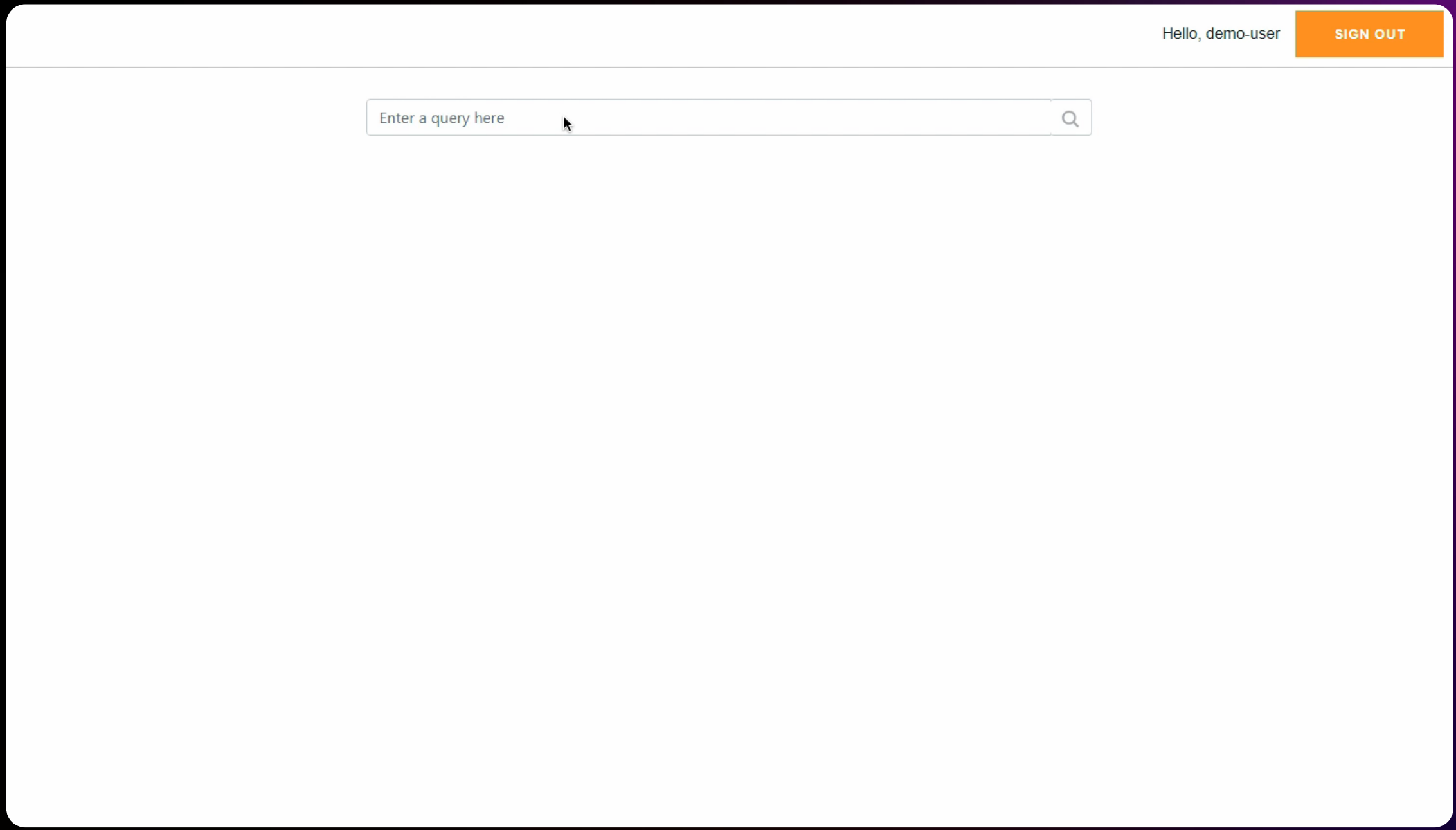
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Web news

Financial data video transcript search



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Customer story: Qualtrics' "Qendra"

Hemant Modi (he/him)

Senior Director of Product Management
Qualtrics

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A leader in experience management

qualtrics XM

16,750+
customers

5,400+
employees

$1B+
revenue



Local sales presence around the globe

Provo	Seattle	Dublin	Sydney
Dallas	Toronto	Munich	Singapore
Raleigh	Vancouver	London	Tokyo
Chicago	Sao Paulo	Paris	Hong Kong
Atlanta	Mexico City	Stockholm	Melbourne
D.C.	Buenos Aires	Madrid	Seoul
Newton	Bogota	Zurich	Mumbai
New York	San Jose	Brussels	Bangkok
Denver		Copenhagen	Brisbane
			Auckland

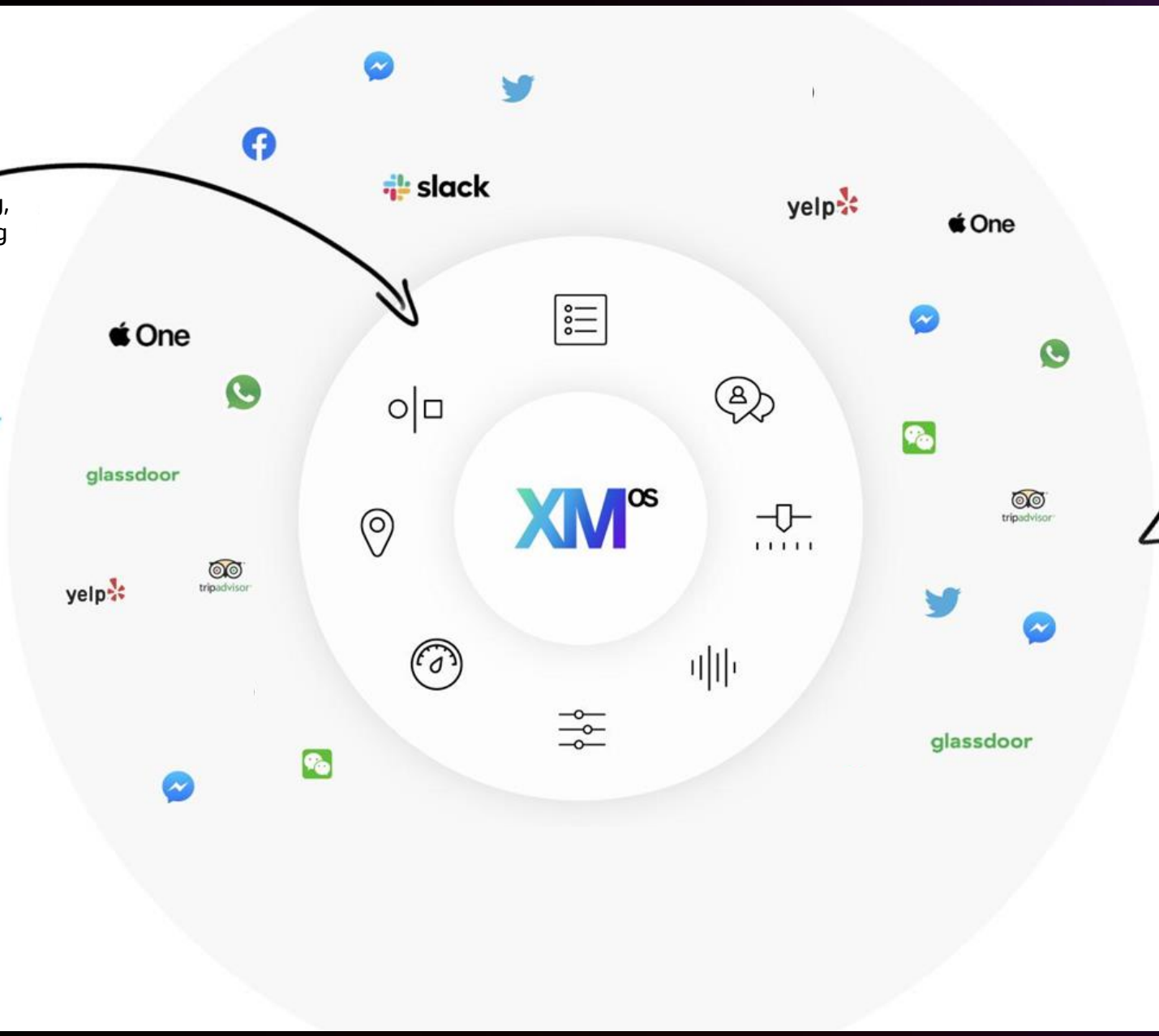
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qualtrics.XM

A leader in collecting, analyzing, and taking action on structured experience data

SURVEYS
CSAT
EMPLOYEE FEEDBACK
PRODUCT DEVELOPMENT
BRAND MANAGEMENT
+



A leader in unstructured experience data analytics

CALL CENTER
SOCIAL
REVIEWS
CHAT
+

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Challenge

Optimize the contact center agent workflow

- Decrease operating costs
- Boost agent productivity
- Drive customer satisfaction (CSAT) and brand loyalty

Solution

Develop a recommendation engine specific to real-time agent assist solutions

- Agent coaching behaviors model
- Knowledge base sources

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Key features of
Amazon Kendra

Offers all of our desired functionality out of the box:



Keyword-based search



Natural language questions



Extracting relevant text from the source documents



Self-learning relevance



Tuning relevance



In-depth analytics



First-party and third-party data source connectors

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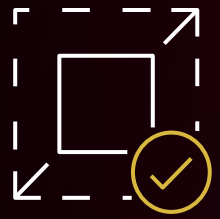
Benefits of Amazon Kendra



Convenient for proof of concept (PoC)



Huge time savings



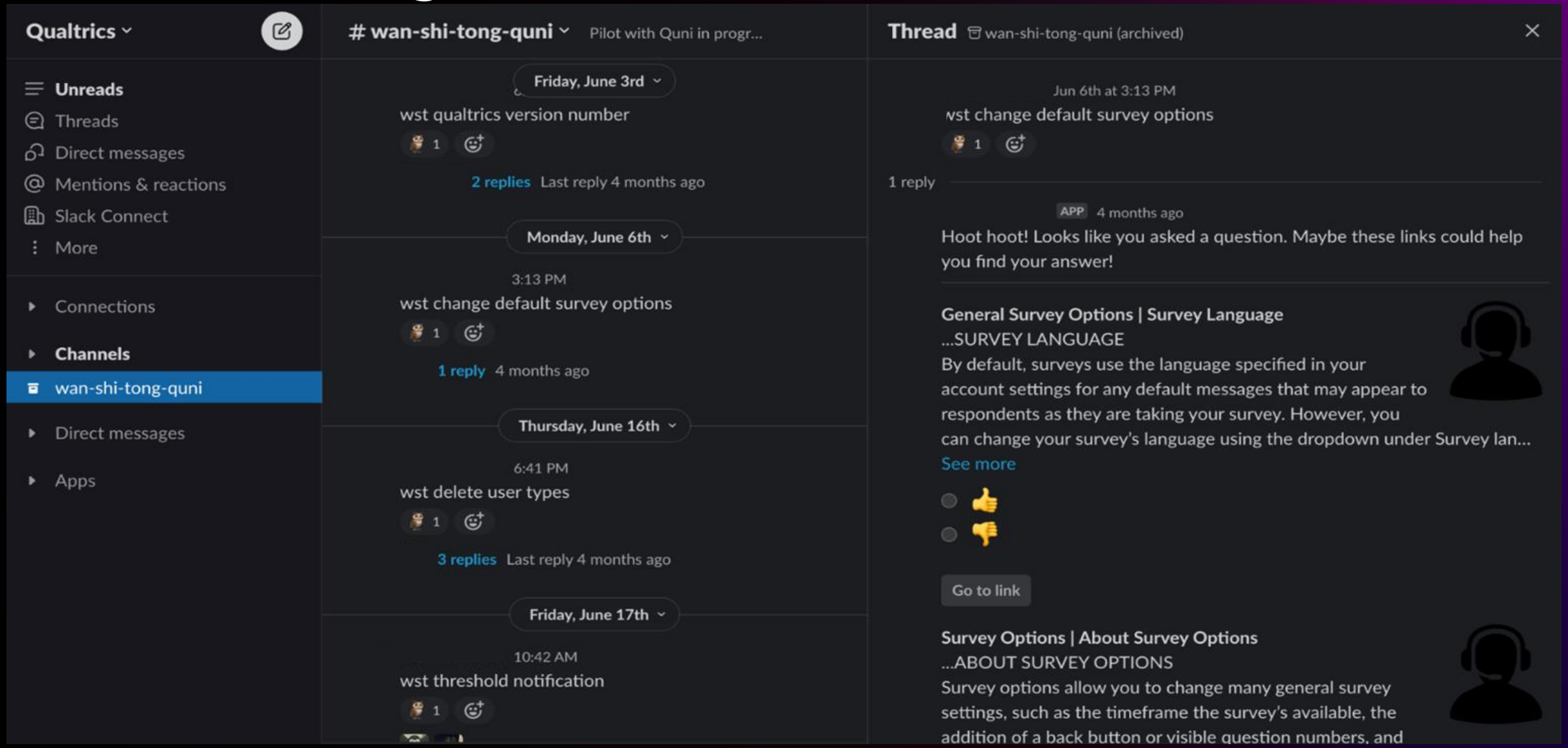
Scalability and operational support



Security compliance to handle customer data

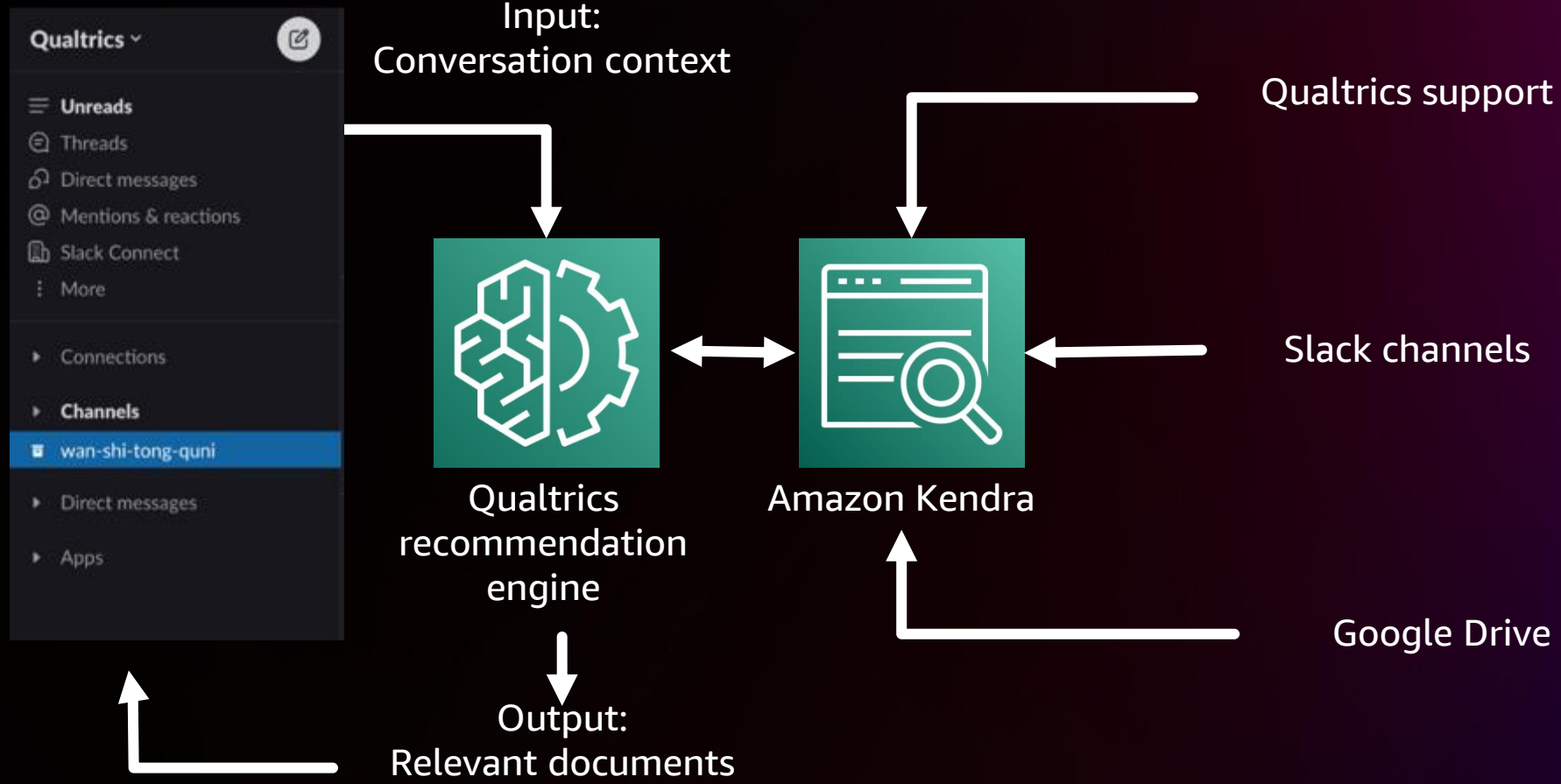
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Wan-shi-tong



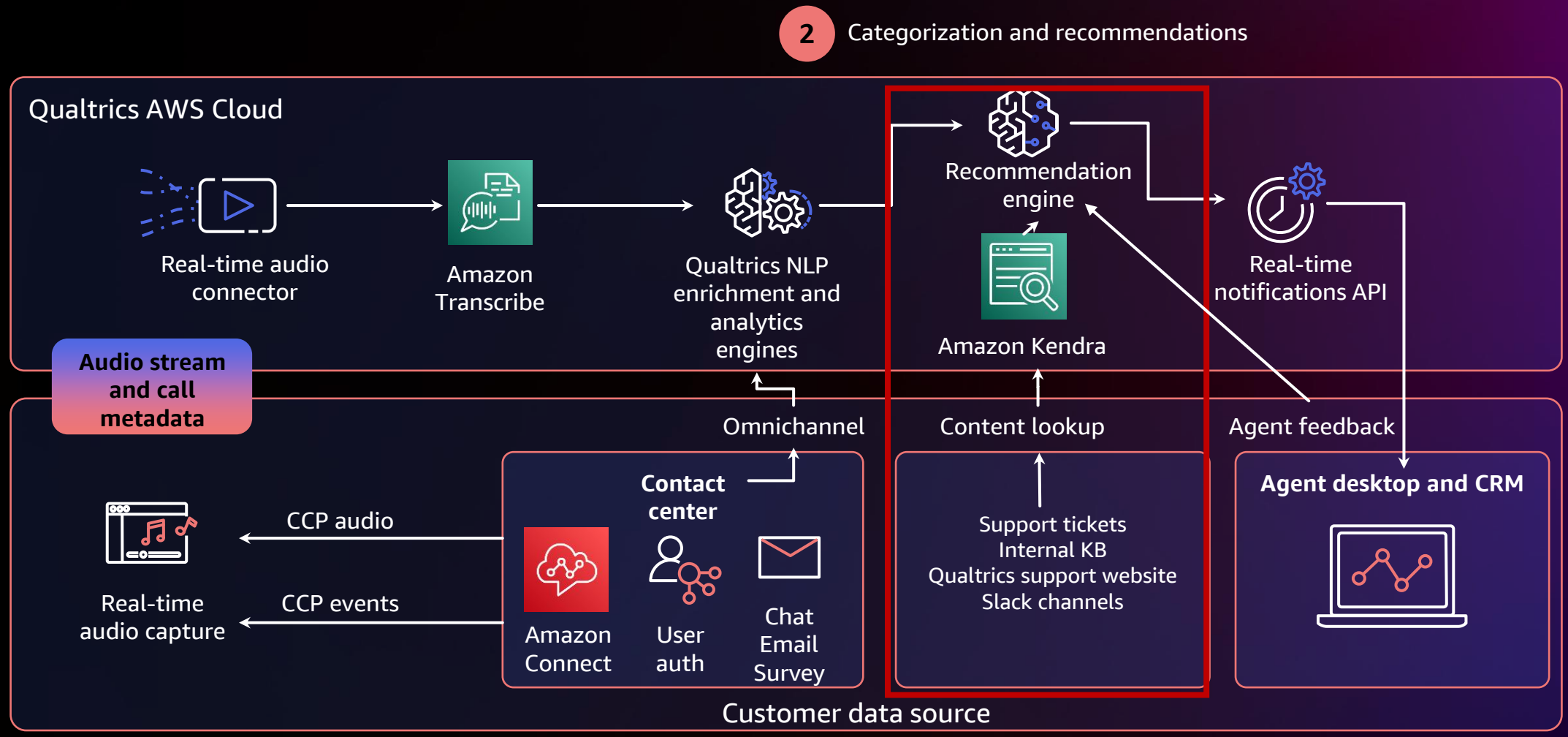
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High-level architecture



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High-level architecture



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No Emails to Display

Misc Tools And Info

Discussion | User Notes | Linked Tickets | Outbox | User Tickets | Ticket History

Hemant Modi
09/13/2022 (2 days ago)

This discussion is for a Support Phone Ticket: **John Smith**

Permission has been granted to access this account.

Couldn't get in touch by phone. Converted to email ticket. 9/14/2022 @ 10:32 am
09/14/2022 (23 hours ago)

Converted to phone ticket. 9/14/2022 @ 10:33 am
09/14/2022 (23 hours ago)

Couldn't get in touch by phone. Converted to email ticket. 9/14/2022 @ 10:38 am
09/14/2022 (23 hours ago)

Hemant Modi
John Smith contacted support via email about a survey issue.
09/14/2022 (19 hours ago) **Remove Comment**

XM Hide

Search

New recommendations will appear here

Business impact

AWS Partner relationship

Collaboration

Prioritized data source connectors

Pilot metrics



increase in initial ticket resolution



increase in ticket volume

“This tool is a game changer, and has an intuitive interface. ” – Quni CSR

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Qendra roadmap



Amazon Kendra first-party Slack connector now available

Replace our custom scripts



Tuning functionality

Feedback
APIs integrated



Extend Qualtrics contact center tech stack

Amazon Transcribe, Amazon Connect



Support growth

More customers, more content

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Thank you!

Hemant Modi

hmodi@qualtrics.com

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Customer story | Orion Health

Jomo Kenneth Starke

Senior Director of Innovation
Orion Health

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Orion Health

Reimagining global healthcare for all

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Our technology is at the heart of healthcare

Protecting over

110M

patient records

100%

healthcare focus

30

years of experience
in the health industry

Customers across

15 countries

One of the world's largest digital front doors

A leader in industry technology with

$345M

investment since 2014

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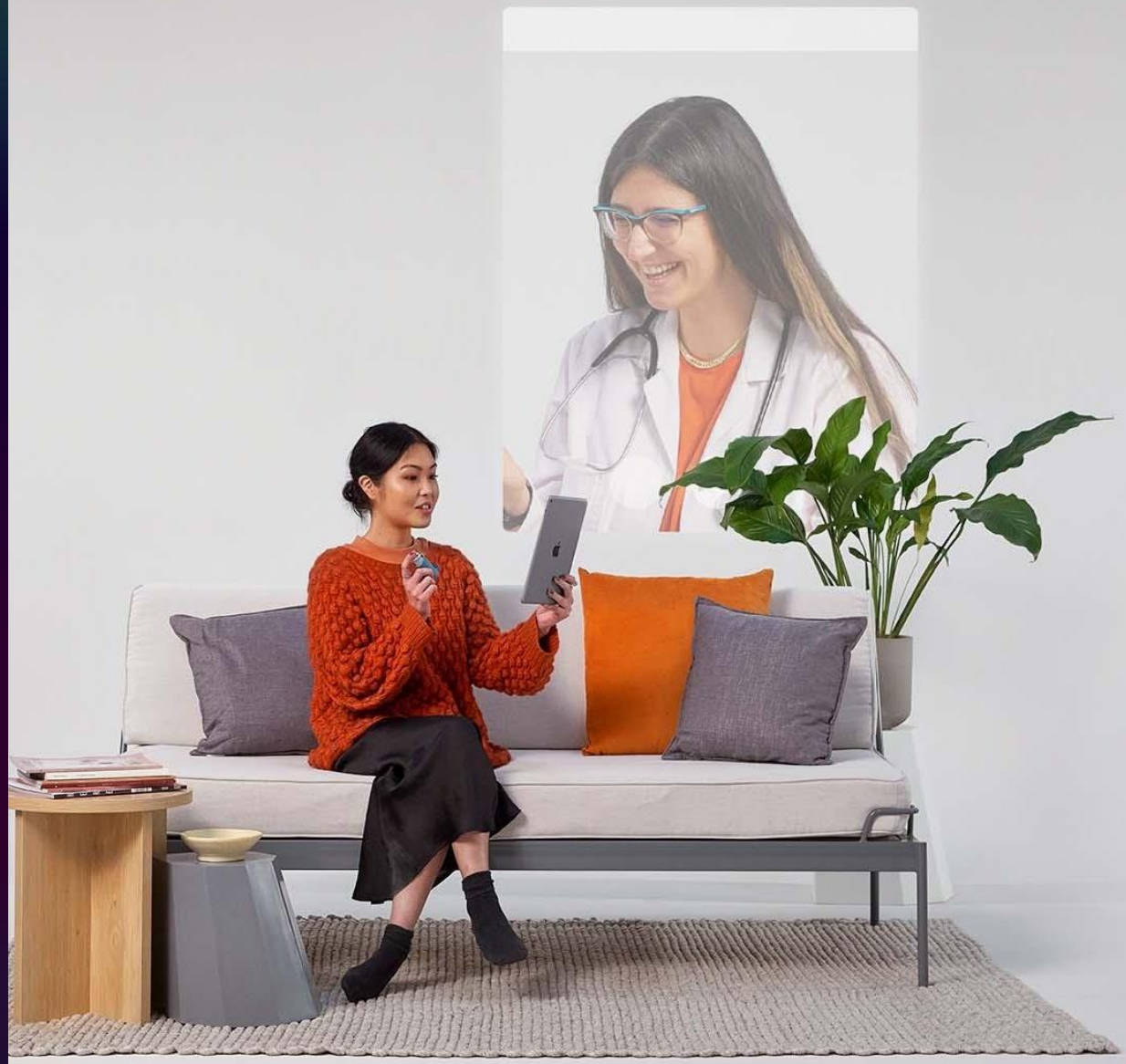
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ORION HEALTH

Digital front door

By Orion Health

Orion Health's **digital front door** is an omnichannel consumer engagement platform that integrates data, tools, and services for end-to-end health and social resource navigation and management.



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Key benefits

ORION HEALTH



Improves consumer experience



Provides faster, more efficient access to health care



Makes better use of precious healthcare resources



Maximizes value of existing technologies



Simplifies all healthcare interactions



Helps to address gaps in health equity

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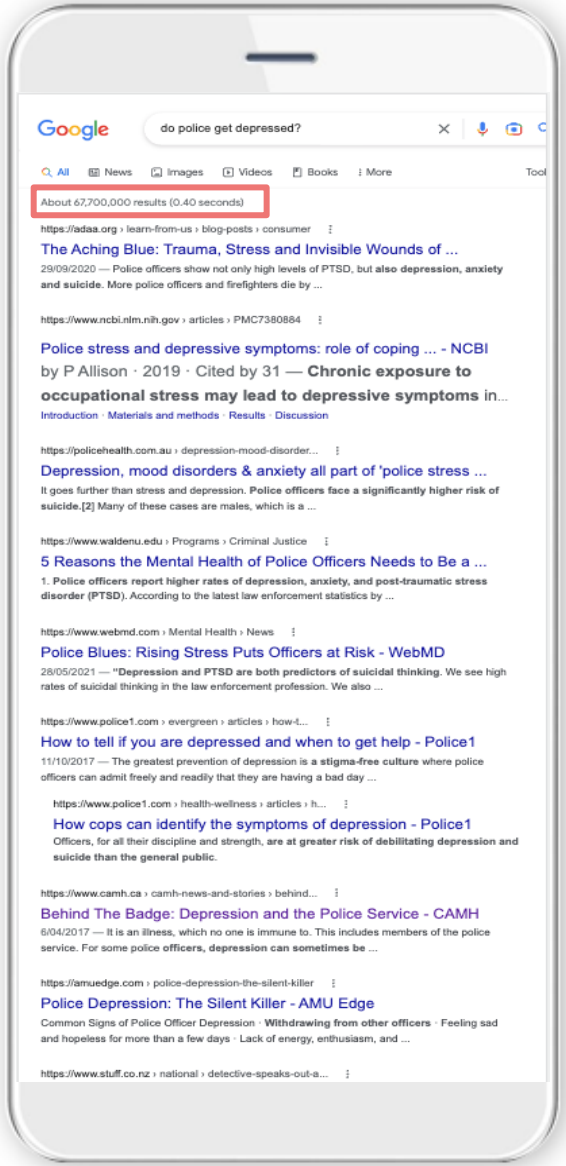
What problems are we solving?

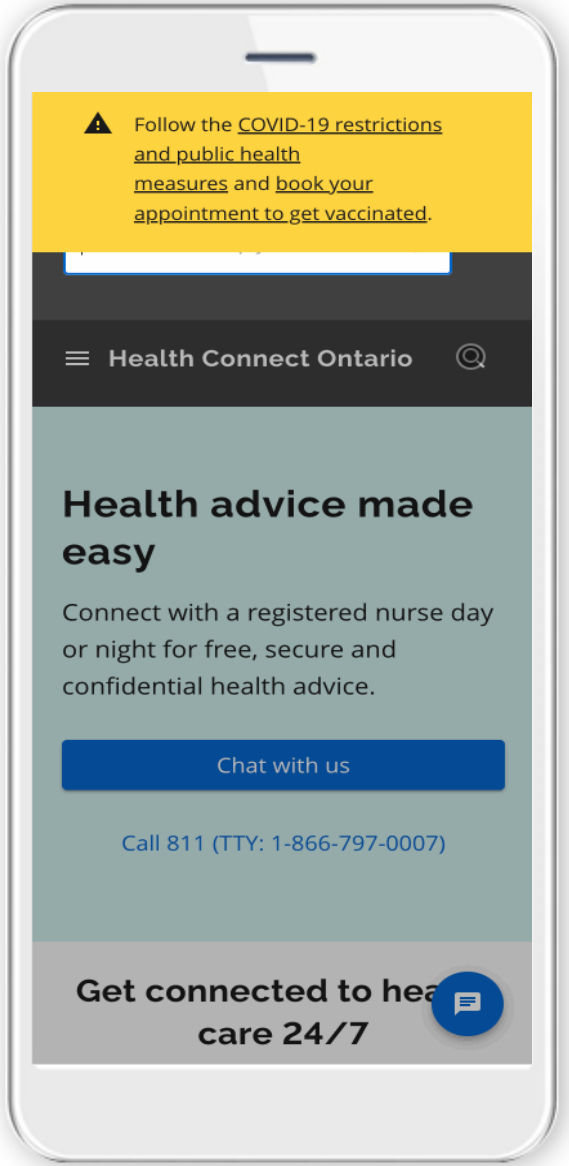
Problem	Solution
Patients have many health organizations to deal with	Unified channel for accessing health information and healthcare providers
Inefficient paper-based processes	Digitized streamlined processes
Don’t know who to trust for curated information	Verified clinical resources available for all users
Waiting for staff to do tasks on behalf of the patient	Offer self-service alternatives online

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Problem #1: TMI

- Typical search engines find an overwhelming number of results
- It's easy to be led astray and end up poorly informed
- Amazon Kendra searches across a curated set of websites for targeted, trusted medical advice

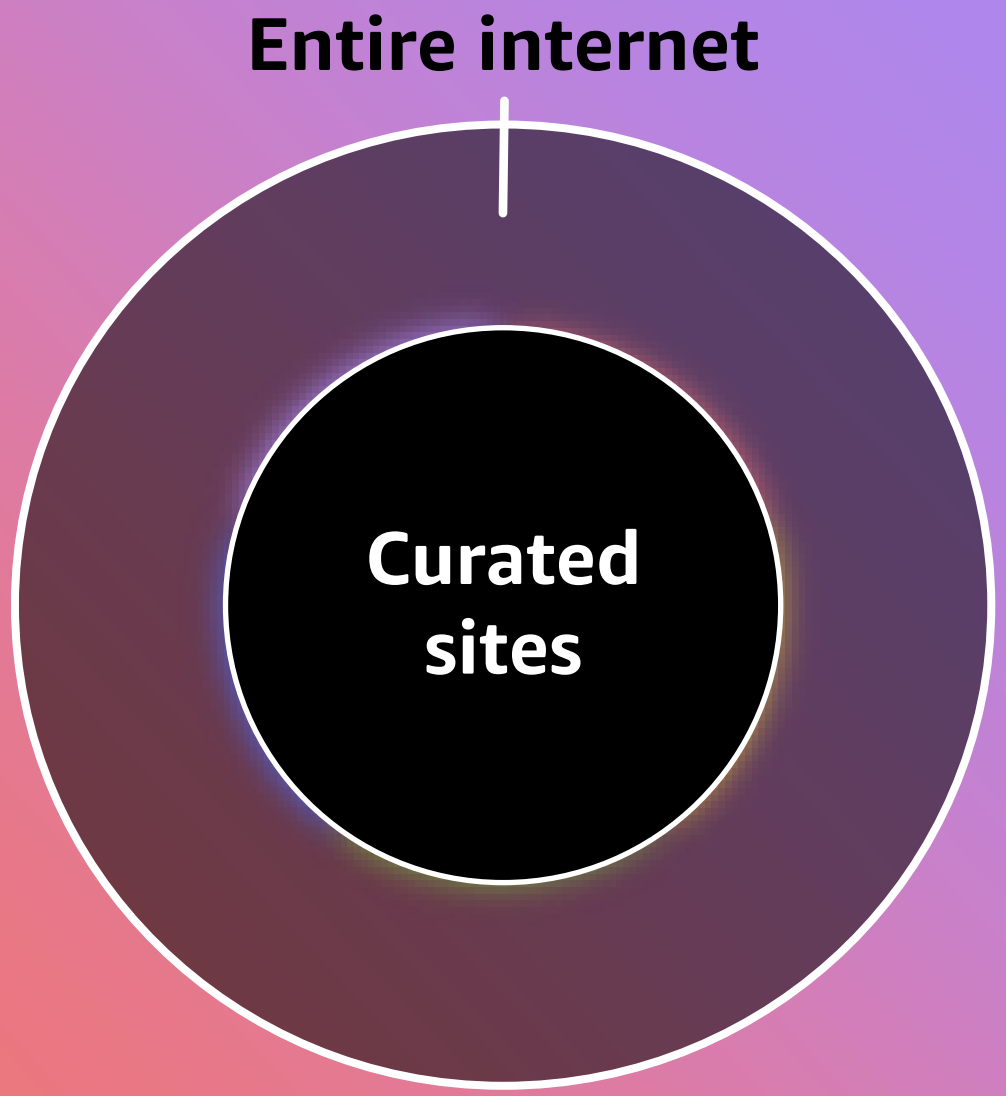




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Problem #2: Noise

- How do we prioritize and rank the remaining 000s of results to find what's relevant?
- Amazon Kendra reduces noise by prioritizing resources from trusted sources (such as government and health) above external sources
- Avoid misinformation and 'Dr. Google' effect



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Why Amazon Kendra?



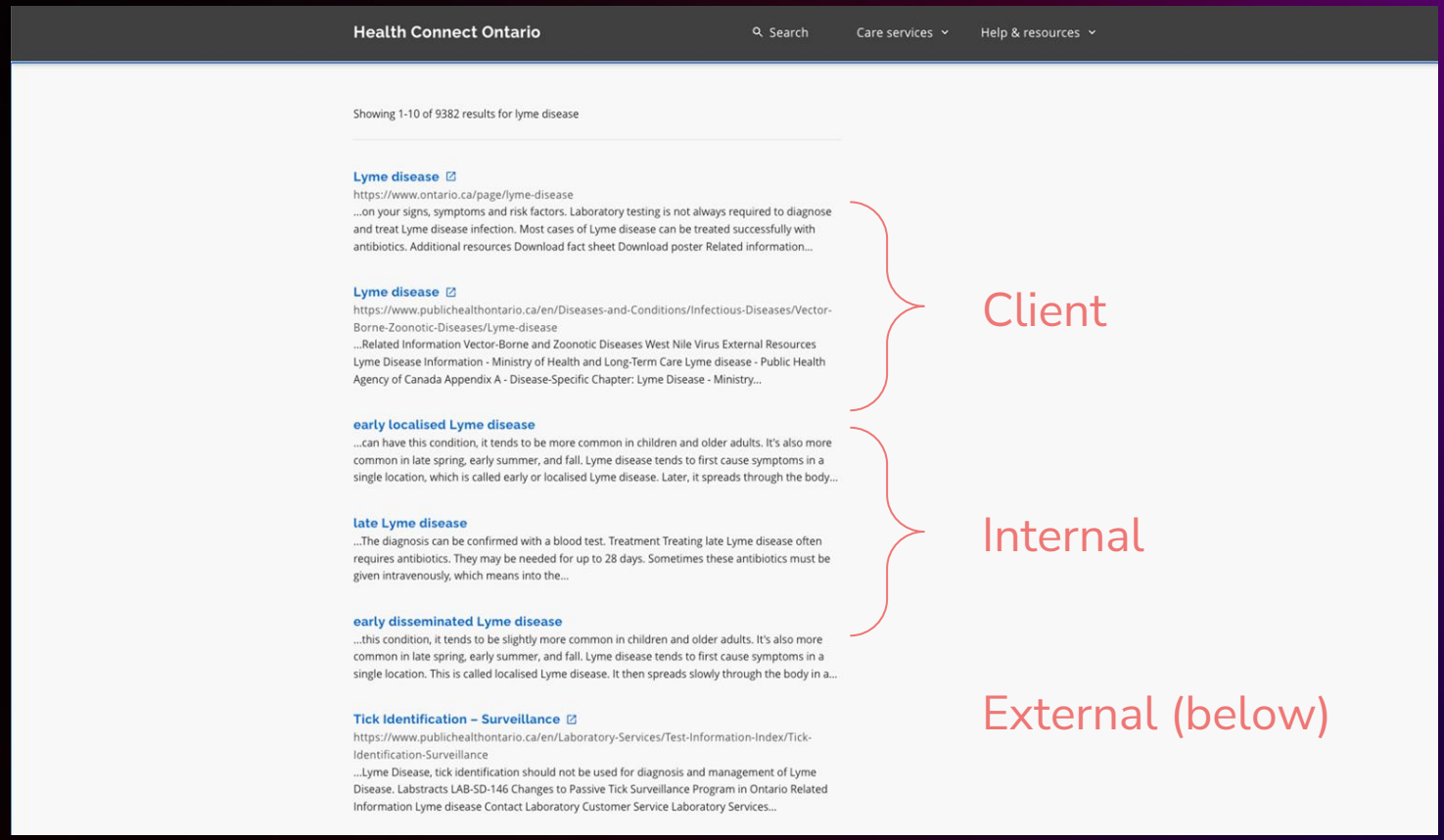
- **AWS partnership**
  - Strong existing partnership with AWS
  - 6-week rapid prototyping
- **Amazon Kendra capabilities**
  - Enables people to ask questions using natural language processing and get an exact answer to their question
  - Searches a curated set of web pages to avoid the noise commonly associated with search engines
  - Streamlines the searching of information, and connects people with trustworthy links relevant to their locality
  - Continuous improvement as the system learns from user feedback

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Client brand and internal content prioritized over external sources

- Trustworthy & verified
- Relevant
- Local
- Simplified



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ADVISOR
PORTAL
API
GATEWAY
HEALTH
INFORMATION
PLATFORM
This is My
Architecture
NEW ZEALAND

Business impact

Reduced burden on health system

- ✓ Triage: Increased number of online symptom assessments
- ✓ Telehealth support: Increased chats, calls, and telehealth engagements for home care

Improved information to consumers

- ✓ Increased utilization: 100,000+ visits to Canadian DFD home page
- ✓ Health engagement: Large increase in number of visits to medical library

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Looking forward

Continuously improve DFD by

- Self-referral by patients
- Video visits (Amazon Chime)

Continuously improve search by

- Increasing number of data sources
- Fine-tuning relevance of sources
- Improving accuracy of results
- Video transcript search

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Thank you!

Jomo Kenneth Starke

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!NEW! Amazon Kendra announcements

Amazon Kendra announced two exciting new features on 11/27:

Tabular Search for HTML

Amazon Kendra tabular search allows customers to search more intuitively and effectively through tables embedded in HTML pages.

Language Expansion for semantic Search

Amazon Kendra expanded language support for semantic search, adding 7 new languages: Spanish, French, German, Portuguese, Japanese, Korean, and Chinese.

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Tabular Search (new!)

Wikipedia table: companies financials

Rank	Name	Industry	Revenue (USD millions)	Revenue growth	Employees	Country	Headquarters	CEO	Ref
1	Walmart	General merchandisers	$485,873	▲ 0.8%	2,300,000		Bentonville, Arkansas	Doug McMillon	[9]
2	State Grid	Utilities	$315,199	▼ 4.4%	926,067		Beijing	Shu Yinbiao	[2]
3	Sinopec Group	Petroleum refining	$267,518	▼ 9.1%	713,288		Beijing	Wang Yupu	[3]
4	China National Petroleum	Petroleum refining	$262,573	▼ 12.3%	1,512,048		Beijing	Wang Yilin	[4]
5	Toyota	Motor vehicles and parts	$254,694	▲ 7.7%	364,445		Toyota, Aichi	Akio Toyoda	[10]
6	Volkswagen Group	Automotive	$240,264	▲ 1.5%	626,715		Wolfsburg	Matthias MÃ¼ller	[11]
7	Royal Dutch Shell	Petroleum refining	$240,033	▼ 11.8%	89,000		The Hague	Ben van Beurden	[12]
8	Berkshire Hathaway	Conglomerate	$223,604	▲ 6.1%	367,700		Omaha, Nebraska	Warren Buffett	[13]
9	Apple	Computers, consumer electronics, and entertainment	$215,639	▼ 7.7%	116,000		Cupertino, California	Tim Cook	[14]
10	Exxon Mobil	Petroleum refining	$205,004	▼ 16.7%	72,700		Irving, Texas	Darren Woods	[15]
11	McKesson	Healthcare	$198,533	▲ 3.1%	64,500		San Francisco	John Hammergren	[16]
12	BP	Petroleum refining	$186,606	▼ 17.4%	74,500		London	Bob Dudley	[17]
13	United Health	Healthcare	$184,840	▲ 17.7%	230,000		Minnetonka, Minnesota	Stephen Hemsley	[18]
14	CVS Health	Healthcare	$177,526	▲ 15.8%	204,000		Woonsocket, Rhode Island	Larry Merlo	[19]
15	Samsung Electronics	Electronics and	$173,957	▼ 2.0%	325,000		Suwon	Oh-Hyun	[20]

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Amazon Kendra Search console

Test search & Deploy.

Enter a test query

▶ **Test query with user name or groups**

New here? Explore our search console quick-guide

Dismiss

Test search

Deploy

Tune relevancy - *Advanced*

Get the most out of testing search in Amazon Kendra by trying different types of questions.

Suggested questions

Who, where, when questions where the answer is a word or phrase. Such as "When are taxes due?"

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Get started:

RUN A FLASH POC

1. Pick a use case (i.e., web site or document search)
2. Determine questions you want to ask about this content
3. Index your content with Amazon Kendra using built-in connectors
4. Test your queries
5. Compare Amazon Kendra's top results to your existing search results
6. Visit the Amazon Kendra page to get started at

https://aws.amazon.com/kendra/

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Thank you!

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Please complete the session survey in the **mobile app**

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