

Three Pointers for Effective and Accurate LLM Integration

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LLMs present opportunities

Improved Patient Outcomes

Better Safety Reviews

Rapid Clinical Development

LLMs pose Challenges

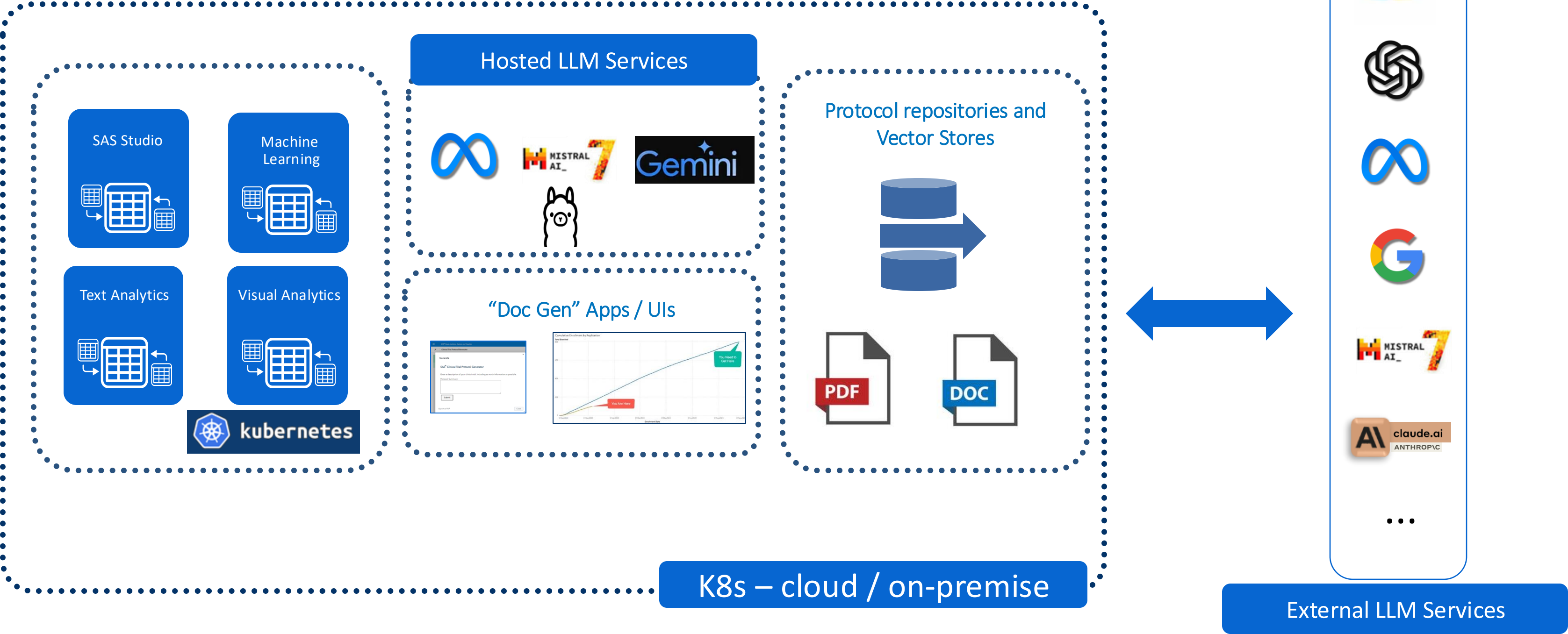
Trust

Deployment & Security

User Interface and Experience

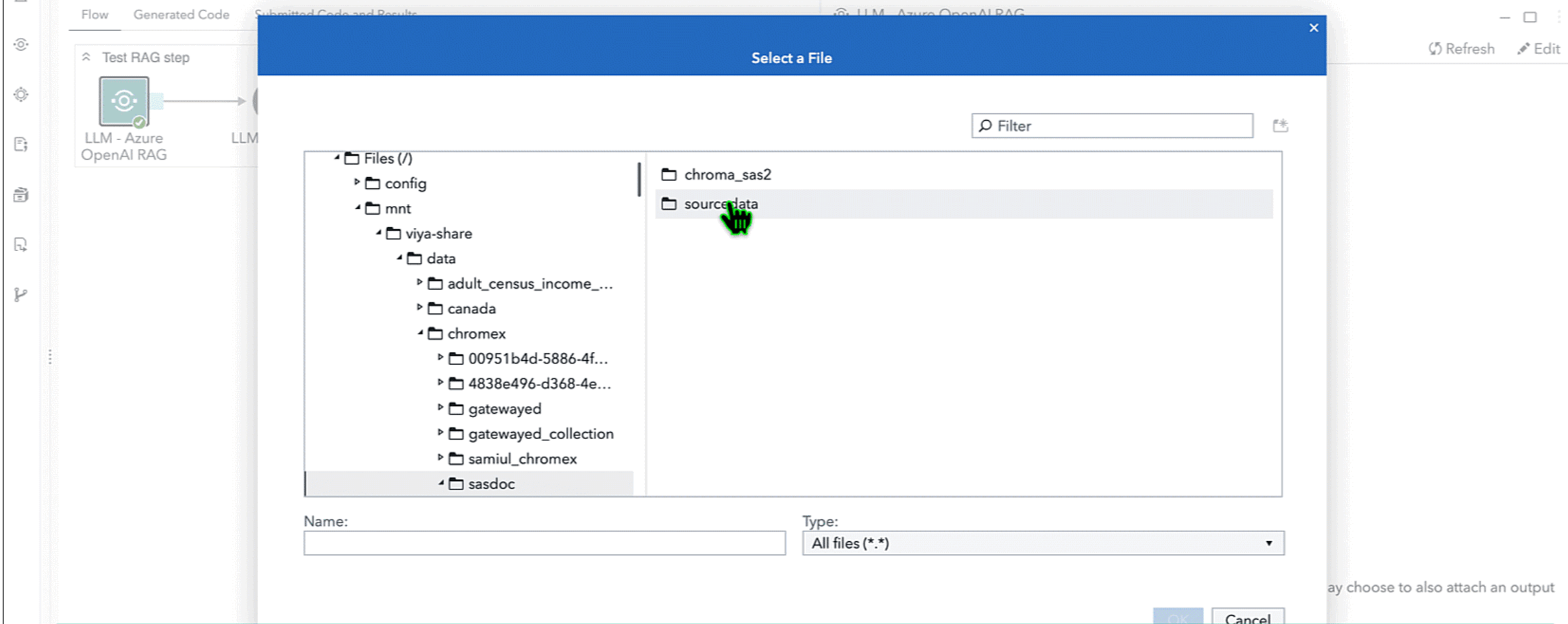
Accessing LLMs: Internal & External Mechanisms

Taking SAS Viya as an example



Note: Icons representing LLMs are purely indicative and not recommendations

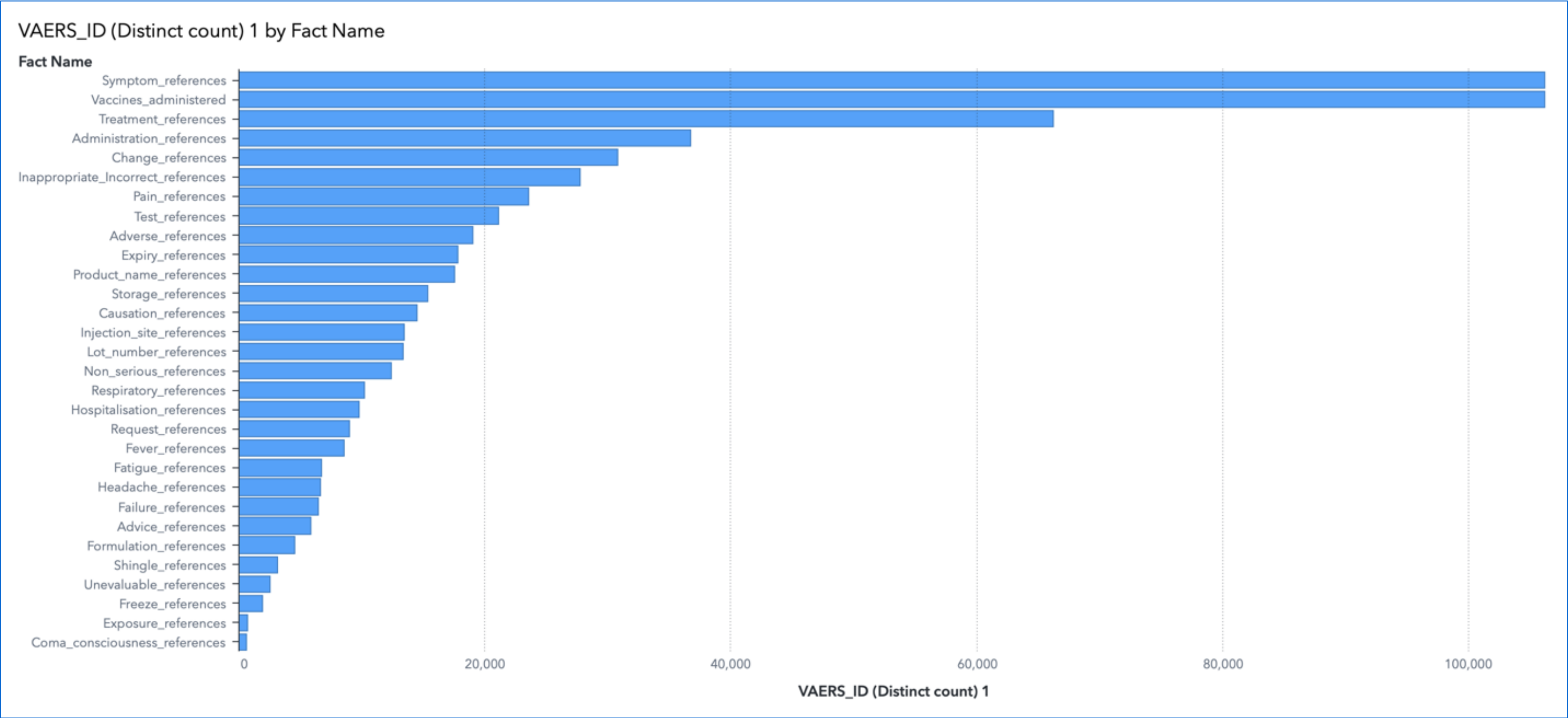
Azure Open AI Retrieval Augmented Generation (RAG)



Select your source data (basis for retrieval)

Natural Language Processing: Conceptual Extract

A list of concepts extracted



Conceptual Extracts

Examples

PharmaSUG_VAERS_Concepts > VAERS_Concepts

Concepts

Predefined Concepts (9)

Custom Concepts (31)

Administration_references

Adverse_references

Advice_references

Causation_references

Change_references

Coma_consciousness_references

Expiry_references

Exposure_references

Failure_references

Fatigue_references

Fever_references

Formulation_references

Freeze_references

Headache_references

Model Studio - Build Models

Run node Close

Edit Concept Sandbox

Fatigue_references

Documents Test Sample Text

All (106125) Matched (6720 of 106125) Search

VAERS_NARRATIVE	Fact Matc...
... , COVID19 .Symptoms: Chest pain , Blood test abnormal , Pericarditis , Fatigue , Heart rate increased , Echocardiogram abnormal . Narrative: Chest pain, elevated heart rate, and exhaustion. Went to the ER and then also went to the cardiologist at local Clinic and was diagnosed with pericarditis through echo. Was put on a treatment plan with medication and no exercise..	2
...Symptoms: Dyspnoea exertional , Condition aggravated , Chills , Axillary pain , Atrial tachycardia , Myalgia , Headache , Fatigue . Narrative: 12 hours post vaccination onset of axilla and deltoid pain, myalgia, chills and headache. Most concerning was the sudden heart rate elevations on exertion (up to 150 bpm) which seems to have been a much worsening flare of the atrial tachycardia I have chronically...	2
...Symptoms: Pyrexia , Fatigue , Diarrhoea . Narrative: Fever, Diarrhea, exhaustion.	2
...Symptoms: SARS-CoV-2 test positive , Pain in extremity , Fatigue , COVID-19 . Narrative: sore arm, tiredness; COVID-19; This spontaneous case was reported by a patient and describes the occurrence of COVID-19 (COVID-19), PAIN IN EXTREMITY (sore arm) and FATIGUE (tiredness) in a 56-year-old female patient who received mRNA-1273 (Moderna...	4
...Symptoms: Pyrexia , Body temperature , Fatigue . Narrative: slight fever; tired; This spontaneous case was reported by a consumer and describes the occurrence of PYREXIA (slight fever)	1

Document 1 of 6720

Highlight: Concept matches Search matches

Retrieval Augmented Generation

LLMs require context

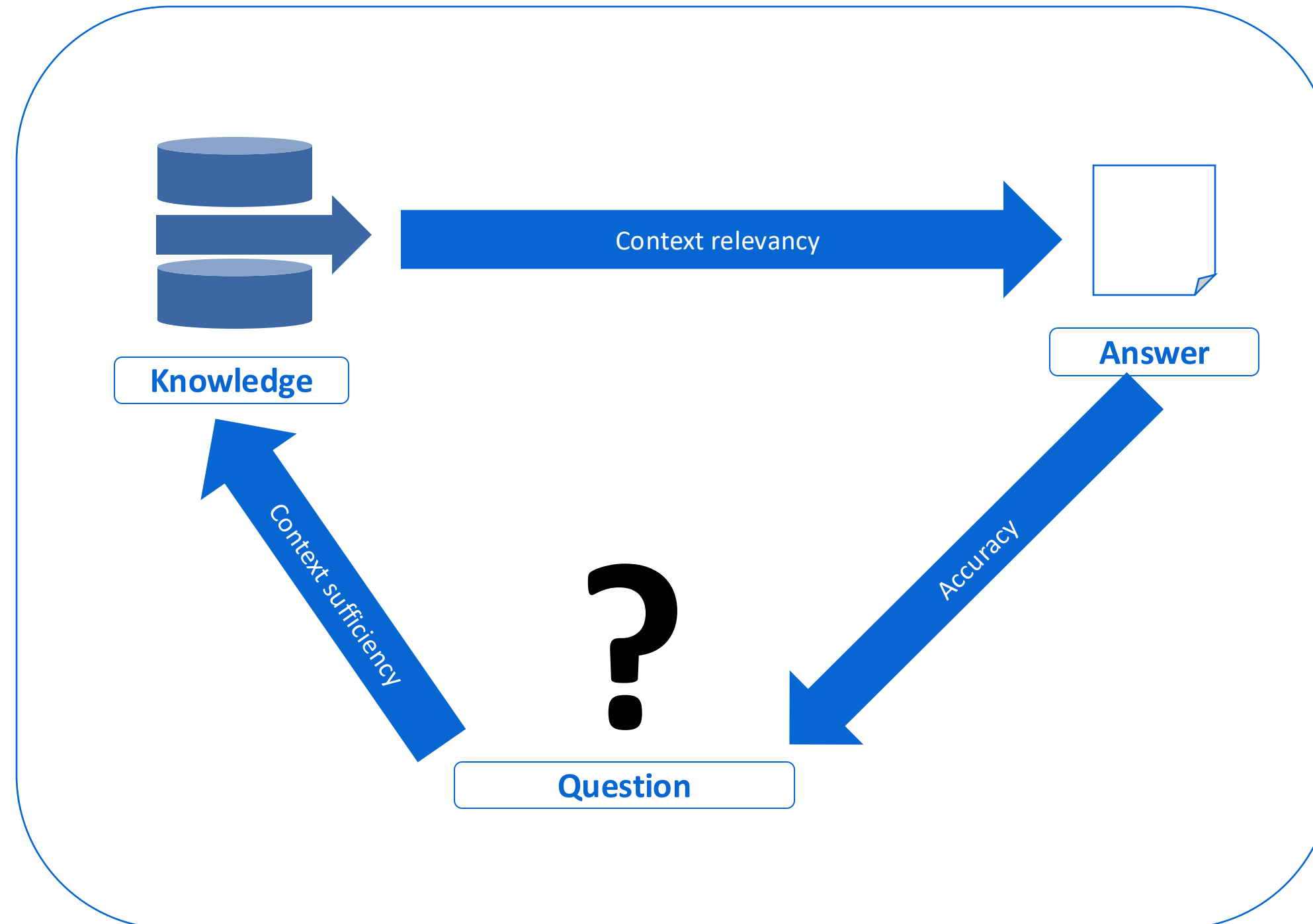


Retrieval Augmented Generation facilitates contextual generation



SAS enables quality (relevant) context

LLM evaluation driven by data artifacts



Thank you
Questions?

