



Secure Data, Preserve Privacy, Boost Accuracy



The Hidden Risks of Sharing Data with Al

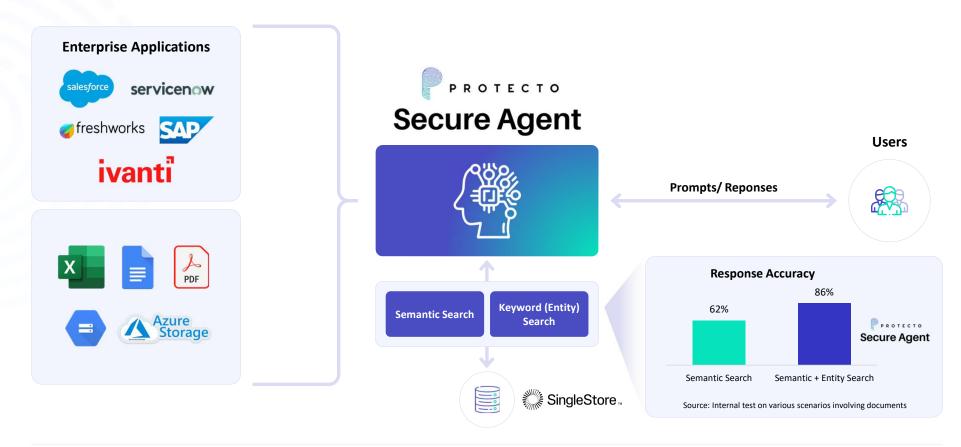


(1) Risk	Description	∭ Impact
Privacy Violations	Exposure of sensitive data (PII, PHI).	Loss of customer trust, lawsuits, penalties
Data Leaks	Al models may memorize and expose confidential data.	Sensitive information becomes publicly accessible or misused.
Compliance Issues	Breaches of GDPR, HIPAA, or other regulations.	Hefty fines, legal challenges, and operational disruptions.
IP Leaks	Proprietary data or strategies could be exposed.	Loss of competitive edge and potential exploitation by competitors.

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Additionally, Protecto Improves Superior Accuracy

Leveraging Entity Recognition Capabilities & SingleStore's Hybrid Search



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Enhancing Response Accuracy with

Entity Recognition



Our Approach

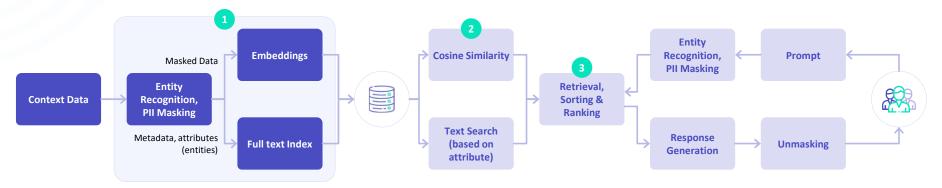
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- Entity Recognition for Masking & Indexing During Preprocessing
 - 7 Identify attributes such as PII/PHI (e.g., name, location, medical record number) in chunks and documents.
 - Mask PII/PHI attributes as required for on use cases
 - Indexing Store all the identified attributes (both masked and unmasked) as part of pre-processing.
- 2 Retrieval
 - Cosine Similarity Search
 - Perform cosine similarity-based retrieval for semantic relevance.
 - Text Search with Attributes
 - Conduct text searches on identified PII attributes in chunks and documents.
- 3 Sorting & Ranking
 - Rank chunks based on Cosine similarity score and Presence of attribute keywords



Results: Superior Retrieval Accuracy

- Consistently outperforms cosine similarity-only Retrieval-Augmented Generation (RAG).
- Ensures contextually relevant and attribute-specific document retrieval



Example: Hybrid Search Delivers Superior Relevant Retrieval



Dr.Sarah from CityCare Hospital

We're facing an issue with the calibration of the XR3000 X-ray machine we purchased last year. Can you provide the maintenance and calibration instructions?

Dr.Sarah from CityCare Hospital

We're facing an issue with the calibration of the XR3000 X-ray machine we purchased last year. Can you provide the maintenance and calibration instructions?



Maintenance Policy for XR3000



PDF

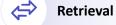
Maintenance Record for CityCare Hospital



XR3000 Calibration Instructions



Better relevancy in retrieval, leading to more accurate answers



Prompt



Maintenance Policy for XR3000



XR3000 Calibration Instructions

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