



AI as a Service

Overview Presentation

June 3rd, 2019

For AMR INSIGHTS



We Answer Questions That Really Matter

Discovering knowledge and curating insights that are too hard for off-the-shelf search engines

Consumer

What is the best course of treatment for my son's melanoma?

NGO

How do I maximize the use of water sanitation resources in Mali?

Public Health

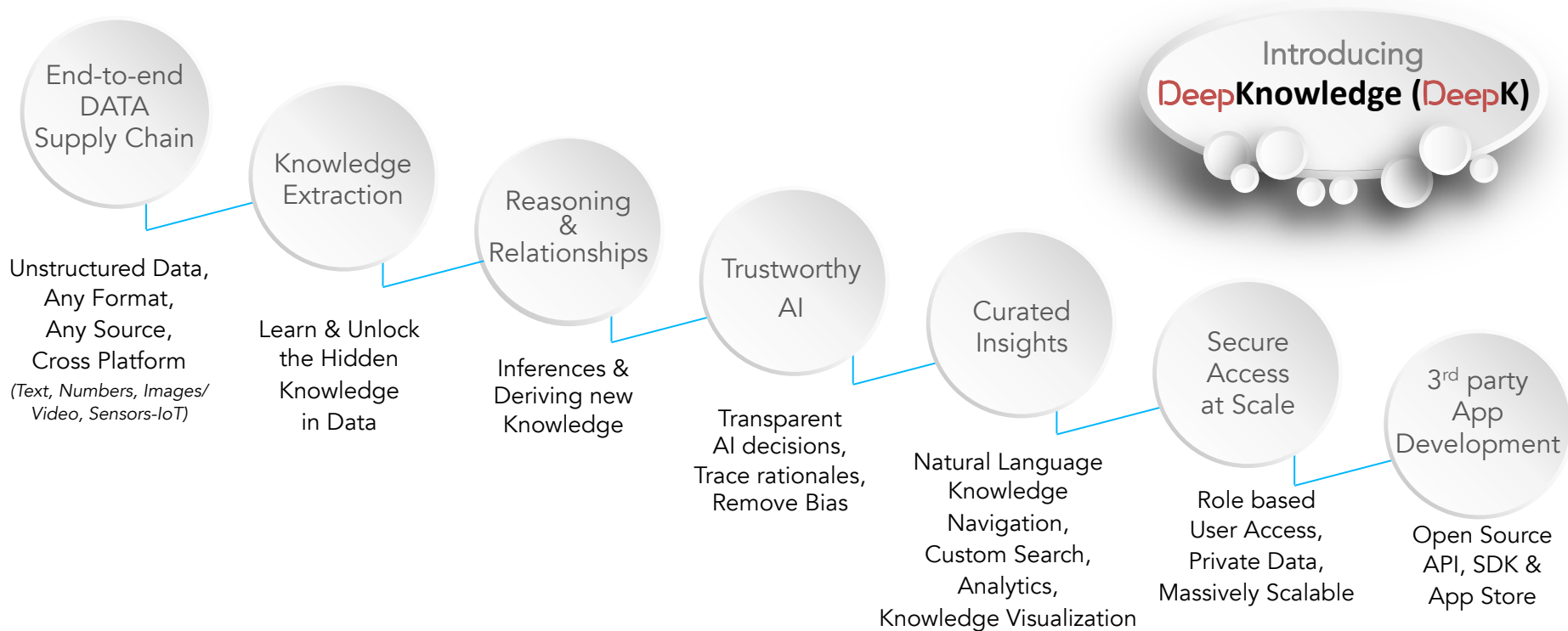
What is the risk of Influenza becoming resistant to antibiotics in north of Beijing this year?

Just ask ...



Helping Experts Make Decisions Fast & with Confidence

Self-service Knowledge Discovery, Actionable Insights and Visualization



Automating Systematic Reviews ... Deep-Knowledge (DeepK)

Standard
Methodology &
Work Flow

1K-50K of Papers, 6-24 months, 12-120 man months

Sources of Data

- Scientific Reports
- Lab Reports
- Surveys
- Pharma Data
- Hospital Data
- Crowd Sourcing
- etc

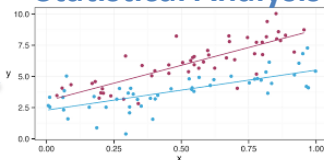
DeepK
Work Flow

Traditional
Systematic
Review

Spreadsheets



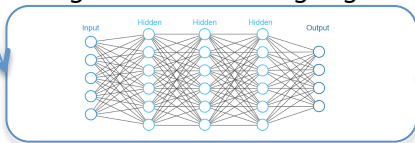
Statistical Analysis



Mapping

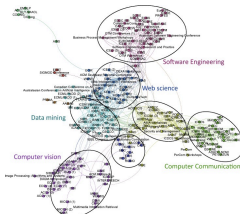


Knowledge Extraction
English & Other Languages



- Data Prep & Ingestion
- Full Text and Tables
- Taxonomy & Ontology
- Data Corpus

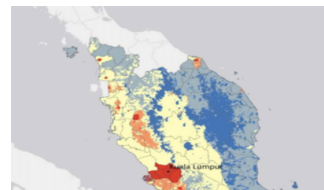
Knowledge Database



**Reasoning,
Semantic Analytics,
Statistical Analysis**



**(more detailed)
Mapping**

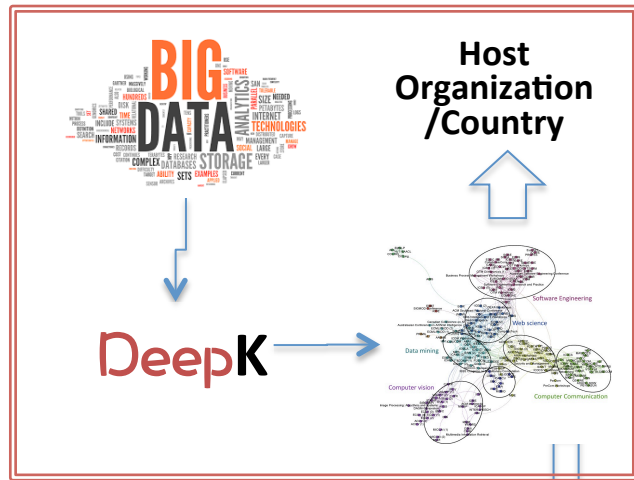


> 1Million Papers, <1 months, <2man months

Exchanging Data with end-to-end Governance & Privacy

- ❑ Data sharing between organizations is often hindered by geopolitical or policy issues
- ❑ **DeepK**, distributed AI platform can facilitate knowledge extraction in one location and knowledge distribution to other locations without the need to transfer the original data
- ❑ Extracted knowledge can be stored in any mutually agreed location, and access to the curated insights is provided securely to the authorized parties

Local Knowledge Discovery



Receiving Organization /Country

- Remote Site*
- Knowledge Access & Navigation*
- Discovered Knowledge*
- Reasoned Knowledge*
- Meta Analysis, etc*
- Intelligent Queries*

Providing Additional Features Beyond Systematic Review

- ❑ **DeepK**, is an archiving knowledge database
- ❑ Supports group information sharing, and unified knowledge database across multiple groups
- ❑ Geospatial mapping of facilities & key locations
- ❑ Custom smart searches
 - *Drug usage by country*
 - *Discovering reports of similar grade*
 - *Search by with similar information*
 - *Countries suffering from the same virus*
- ❑ Continuous trolling and mapping of data

Any data, Any source, Any format

Text/Numbers/Images/Video/Sensors-IoT (Enterprise/Consumer)



Actionable Insight

Numeric, Textual, Semantic, Pattern analysis & Visualization



Applications in the Biomedical Field

Secure & Protected Data Exchange

Breaking down data silos and facilitating access to data

Systematic Reviews

- Searching, Screening, Classification, Clustering,
- Information Extraction and Synthesis
- Living/Continuous Systematic Reviews

Electronic Health Records

Lab Reports, Medical History, Doctor's Notes, Narrative Text processing

Emerging Fields

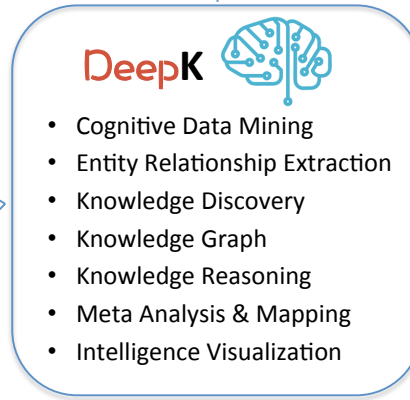
- Toxicology
- Precision/Personal Medicine
- Drug repositioning

Disease Surveillance

Text mining and web source mining to identify the outbreak of diseases

Biomarkers

Identifying disease-related biomarkers and associated Genes from literature and web sources





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