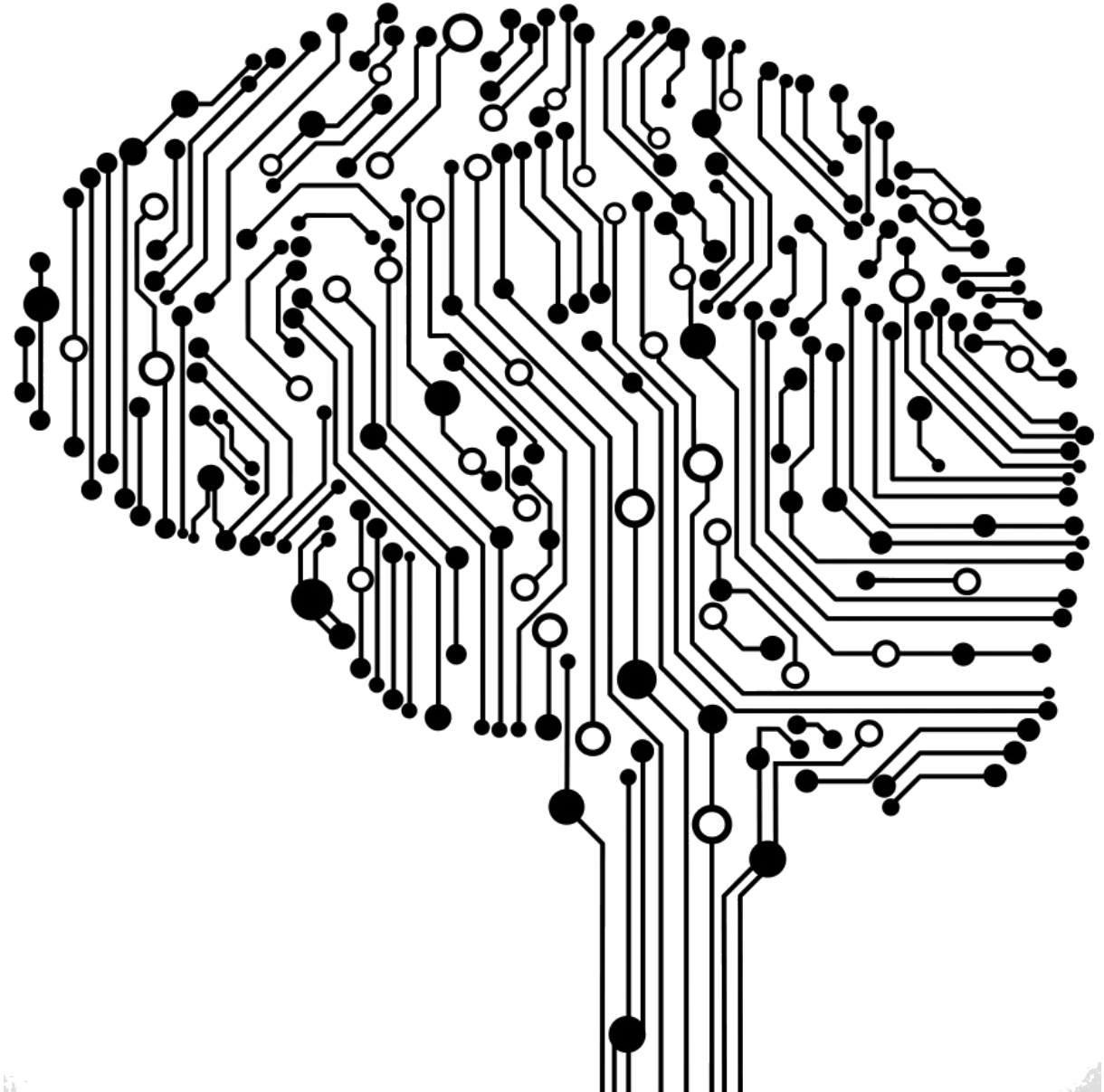


LearnAI – Cognitive Search

Introduction



Agenda

- Motivation and context
 - Azure Search
 - Cognitive Search
 - Example
 - Discussion
- Key concepts for Cognitive Search

Search-related solutions

- Cognitive Services
 - Bing Web Search API
 - Bing Custom Search
- SQL Server full text search
- Dedicated search solutions

What Else?

Web Search raised the bar for searching unstructured content

- Performance
- Intelligence
- Availability

Search expectations

The screenshot displays the Azure Search Job Portal Demo interface. At the top, the header includes the Azure Search logo, the text 'AVAILABLE JOBS (180 jobs)', and navigation links for 'Home', 'Jobs', and 'About Azure Search'.

On the left side, there is a 'SEARCH' section with a search bar containing the text 'analis'. Below the search bar, a list of job suggestions is shown, including 'DATA AND BUSINESS ANALYST', 'Strategy & Analytics', 'Performance Mgmt. & Analytics', 'Technology and Analytics Trainer', 'Workforce Data Analyst/Statistician', 'Data Analytics Center', and 'Policy Analyst (6)'. A blue callout box labeled 'Spelling Mistakes' points to the search bar. Another blue callout box labeled 'Geospatial' points to a map of New York City in the background. A blue callout box labeled 'Suggestions' points to the list of job suggestions.

Below the search section, there is a 'LOCATION' section with a list of location filters, including 'Internal (92)' and 'External (90)'. A blue callout box labeled 'Facets' points to this section.

On the right side, there is a map of New York City with several orange location pins. A blue callout box labeled 'Geospatial' points to this map. Below the map, there is a section titled '180 AVAILABLE JOBS'. This section includes a 'Relevance' dropdown menu, a 'Ranking' callout box, and a pagination control showing pages 1 through 5. A blue callout box labeled 'Paging' points to the pagination control.

The job listings are displayed in a list format. The first job listing is for a 'Budget Analyst, Family and Child Health Administration' with a salary range of \$45,358 to \$61,754 Annual. A blue callout box labeled 'Hit Highlighting' points to the job title. The second job listing is for a 'PMO ANALYST - Featured Job' with a salary range of \$45,174 to \$62,370 Annual.

Motivation and context

Azure Search

- Easily give users the experience they're expecting
- Additionally, the developer gets
 - Monitoring
 - Reporting
 - Simple scoring
 - Prototyping tools
 - Inspection tools
- Intelligence?

Cognitive Search

- Add intelligence to indexing workloads
 - Process unstructured text or non-text content
 - Apply cognitive skills
 - Entity recognition
 - Language detection
 - Sentiment analysis
 - Image analysis
 - ...and more
 - Create custom skills

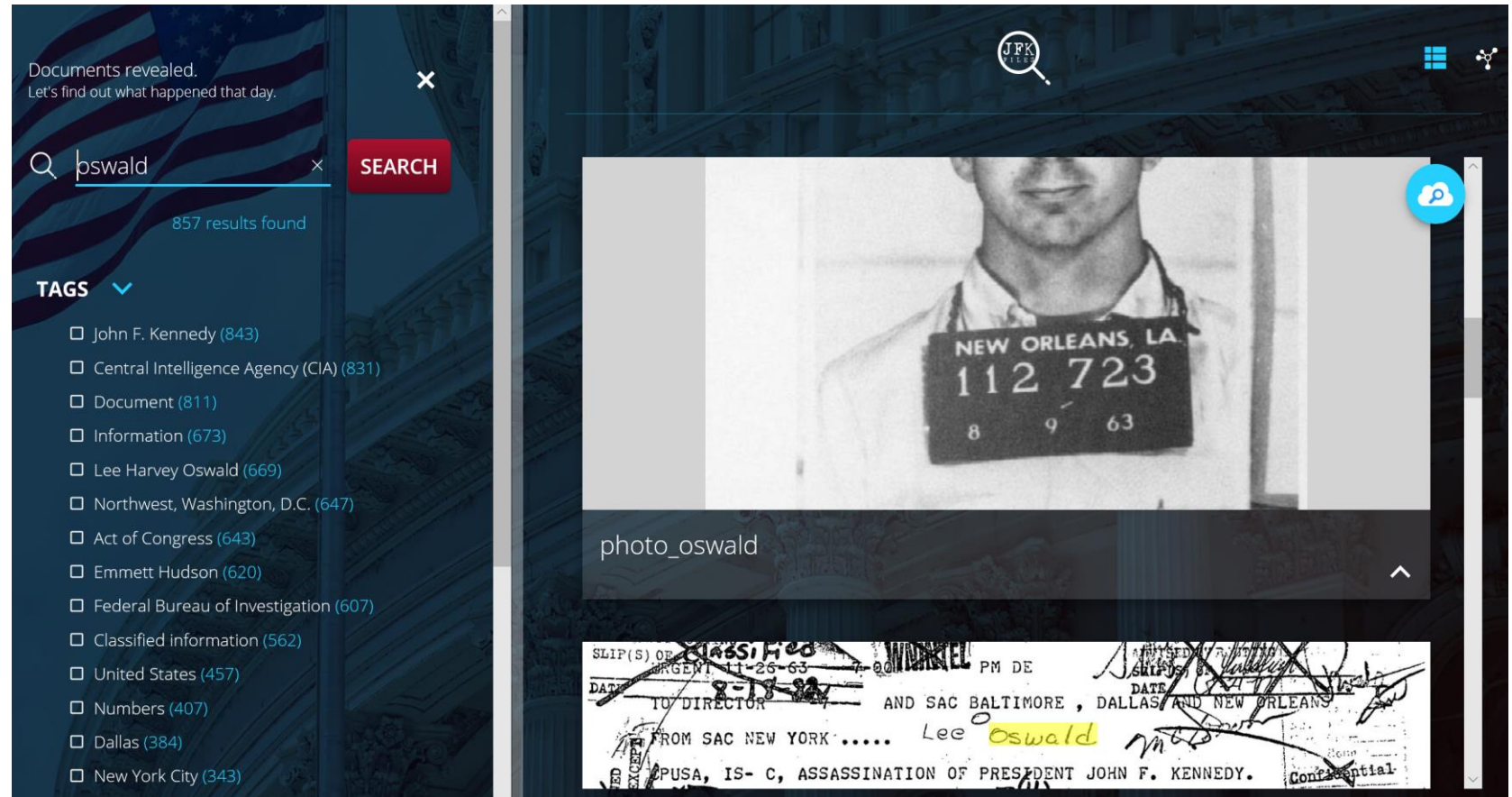


John F. Kennedy (JFK)

November 22, 1963

Example: JFK files

- Extract from documents, PowerPoints, PDFs, images, etc.
- Recognize cryptonyms and their meanings as the same
- Extract entities, relate them



Discussion

Can you think of scenarios where this technology might be useful?



Analyzing
legal contracts



Understanding
engineering plans



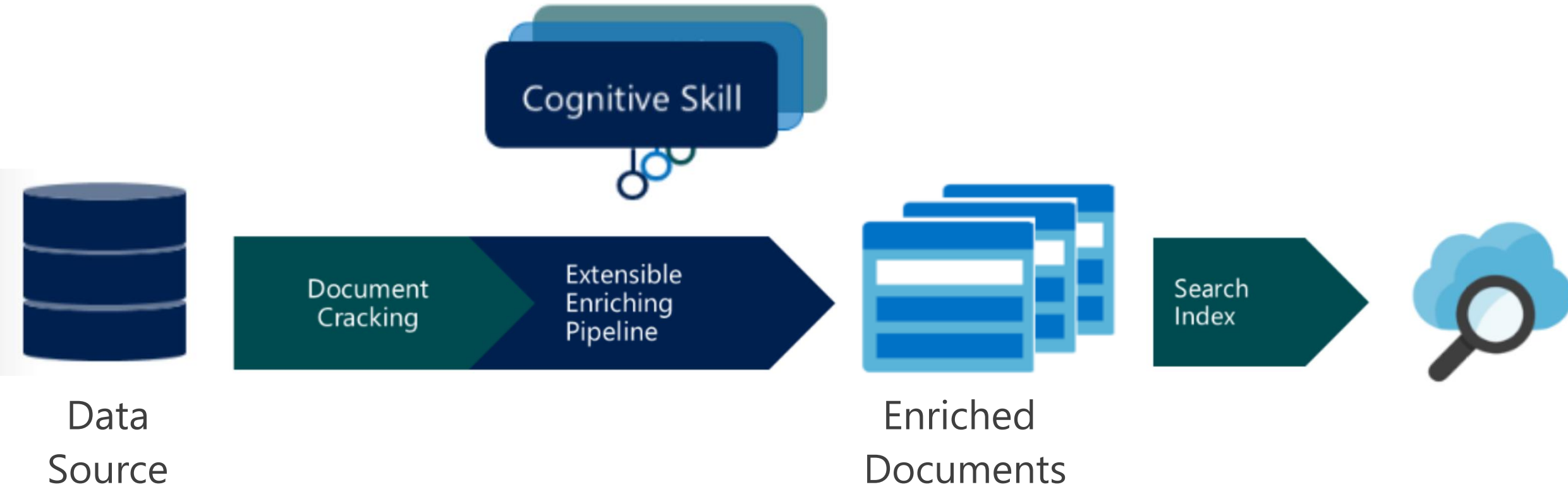
Extracting
form information

Motivation and context

Cognitive Search

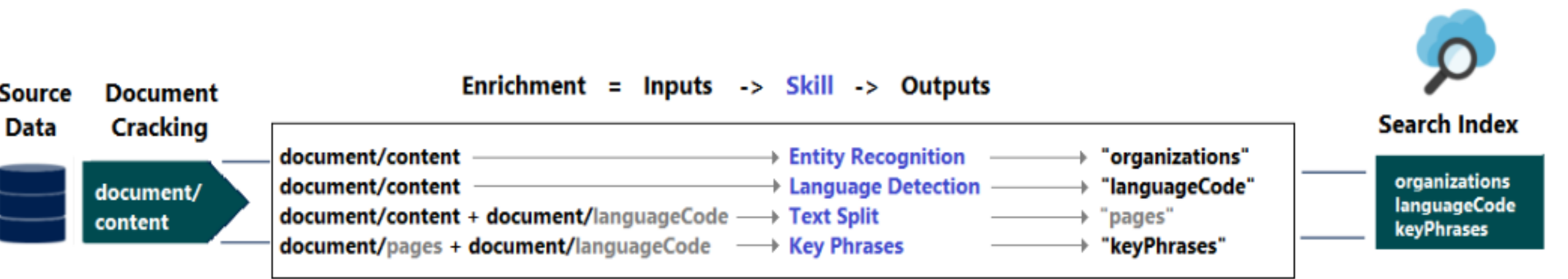
Transform raw, unstructured content into rich, searchable content in an Azure Search index with the power of Cognitive Services

Cognitive Search Pipeline



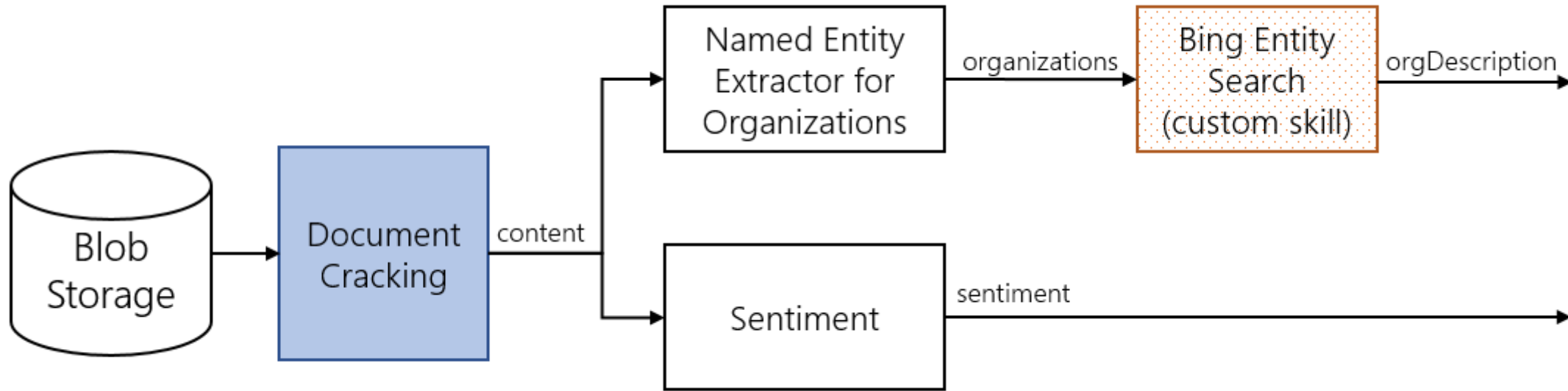
Key concepts

Cognitive Search Pipeline



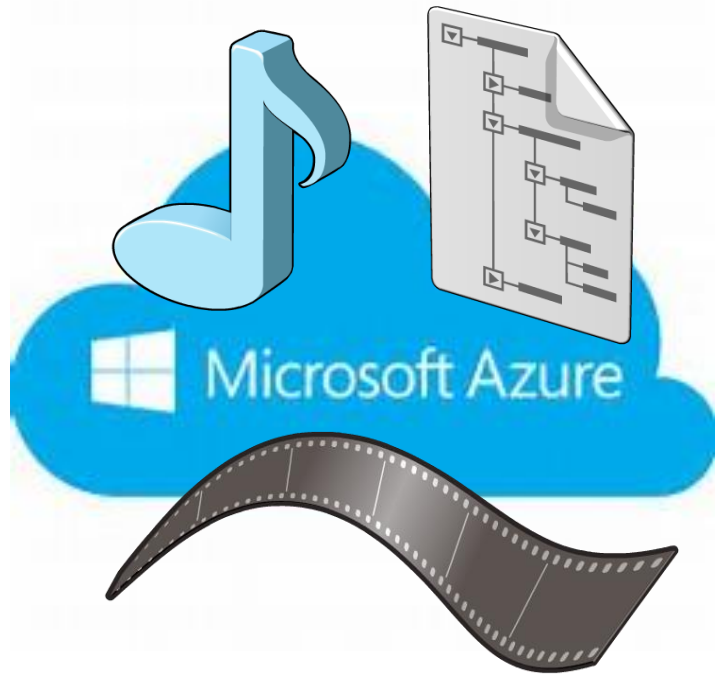
Key concepts

Cognitive Search Pipeline



Data sources and document cracking

Supported
Data



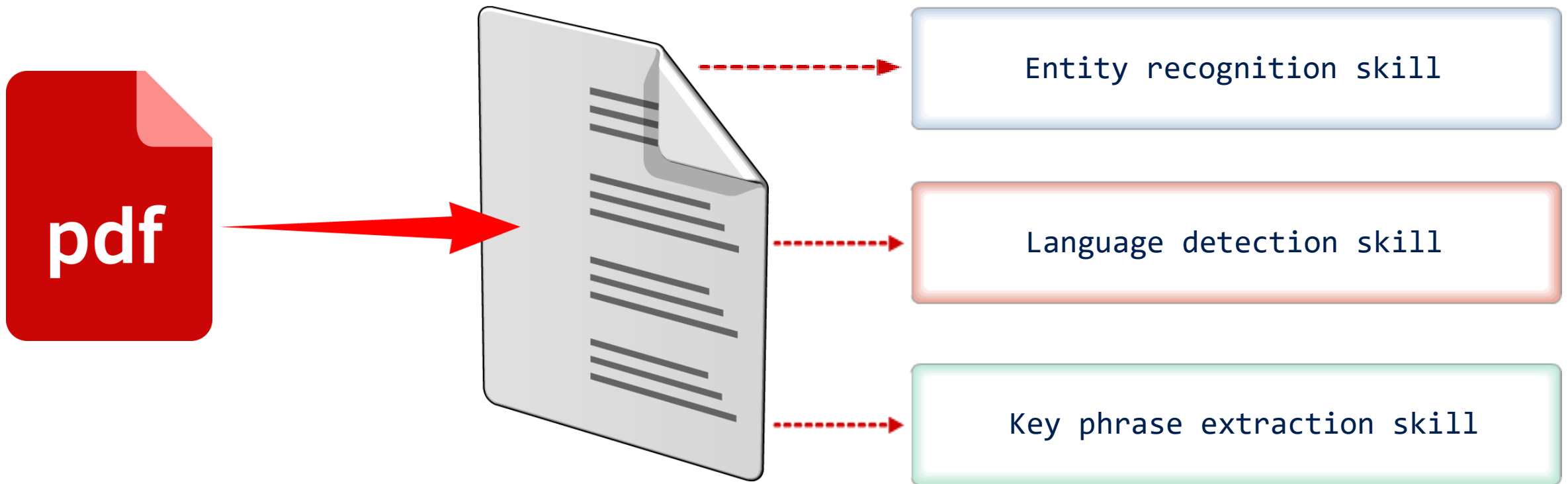
Supported document types:

- PDF
- DOCX/DOC
- XLSX/XLS
- PPTX/PPT
- MSG (Outlook emails)
- HTML
- XML
- ZIP
- EML
- RTF
- Plain text files JSON
- CSV

Key concepts

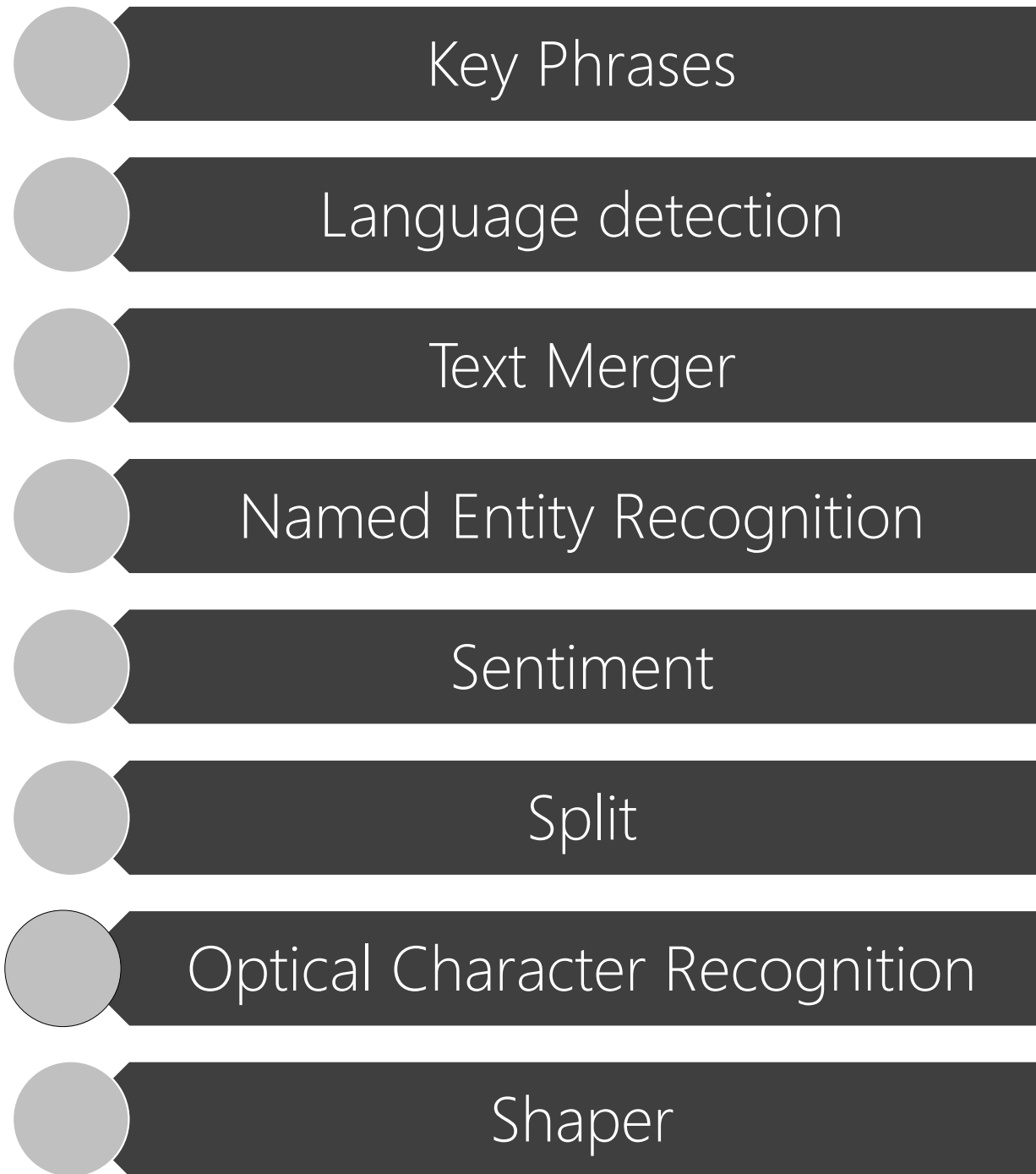
Cognitive skills

Enrichment is implemented as **cognitive skills** that invoke atomic transformations.



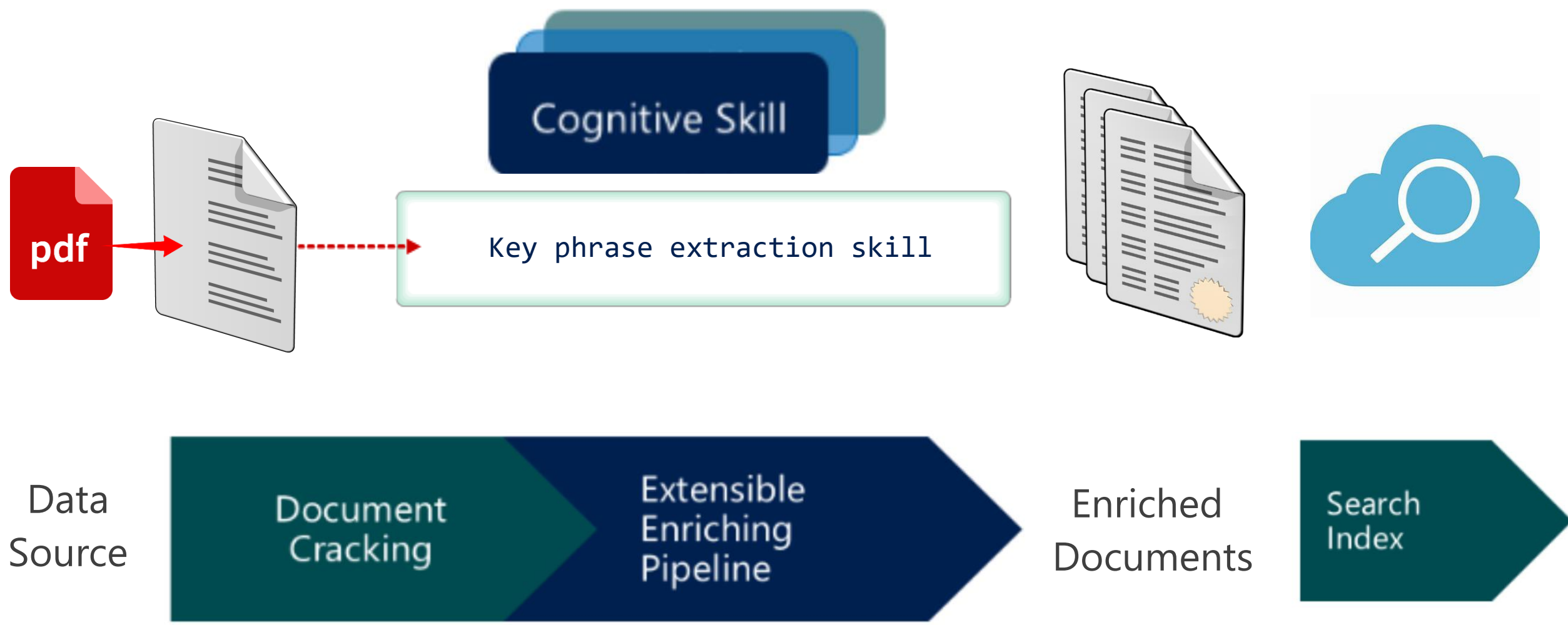
Key concepts

Predefined Cognitive Skills



Key concepts

Enriched Documents



Key concepts

Search Index



Supplement the indexes with:

- Custom Analysers
- Fuzzy Search
- Filtered Search
- Scoring Profiles
- Synonym Maps

