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AI-Based Contract Intelligence

In a nutshell:

- Automated data extraction from contracts

- 80% reduction in manual review and data extraction time

- Significant reduction in contract-processing costs

- Combination of supervised and unsupervised learning

- Learning driven by subject-matter experts

- Easy integration through a REST API

Biologically-inspired natural language understanding

cortical.io

Leverage a wealth of data from contracts

with precise, automated extraction

Extract key information from thousands of complex contracts that use disparate and diverse language. Quickly generate consistent and comparable summary abstracts and spreadsheets, and fill your company's contract management software with automatically extracted data. Also search through associated documents such as amendments, certificates, approval notes, and letters.
The Cortical.io Contract Intelligence Engine vastly outperforms other AI-based extraction technologies by delivering extremely high levels of data precision and recall.

Manage contracts in real time

with fast extraction speeds

The management of contract lifecycles by keeping track of key information has traditionally been a labor-intensive activity, tying up huge resources. With the high data-extraction speeds of the Cortical.io Contract Intelligence Engine, you get to visualize key aspects of contracts in seconds. The system is easily integrated with your contract management software so that you can dynamically add and review information from complex contracts, on the fly, as part of your daily workflow. Over the lifecycle of contracts, quickly compare extracted information with incoming data from other sources, such as income reports and compliance certificates, to check whether terms, conditions, and covenants are adhered to.

Gain valuable insights

with large-scale contract analysis

Getting insights into the financial situation of companies or the correlation between contract clauses and return on investment can be a lengthy and complex process that requires the analysis of multiple pieces of collateral. The Cortical.io Contract Intelligence Engine can mine large quantities of documents to extract and classify relevant information quickly and at a precision level that is difficult to achieve at scale with manual labor.

Quick facts

- Processes all types of legal documents: contracts, credit agreements, lease agreements, ISDA master agreements and annexes, bond indentures, amendments, certificates, approval notes, letters, etc.

- Extracts defined entities (for example, dates, amounts, and ratios), relations between these entities, whole clauses, and data from tables

- Works in English, German and Spanish (other languages can be added on request)

- Uses a combination of supervised and unsupervised learning, whereby annotation by subject-matter experts (SMEs) is minimized

- Is optimized for accepting and processing SME feedback

- Easily integrates into your existing contract management system through a REST API

How Cortical.io succeeds
where others have failed

No other data extraction solution on the market can achieve the same combined levels of high precision and high recall or can extract such complicated conditional terms from complex contracts as the Cortical.io Contract Intelligence Engine. Many companies have turned to Cortical.io after unsatisfactory experiences with other AI-based data extraction technologies.
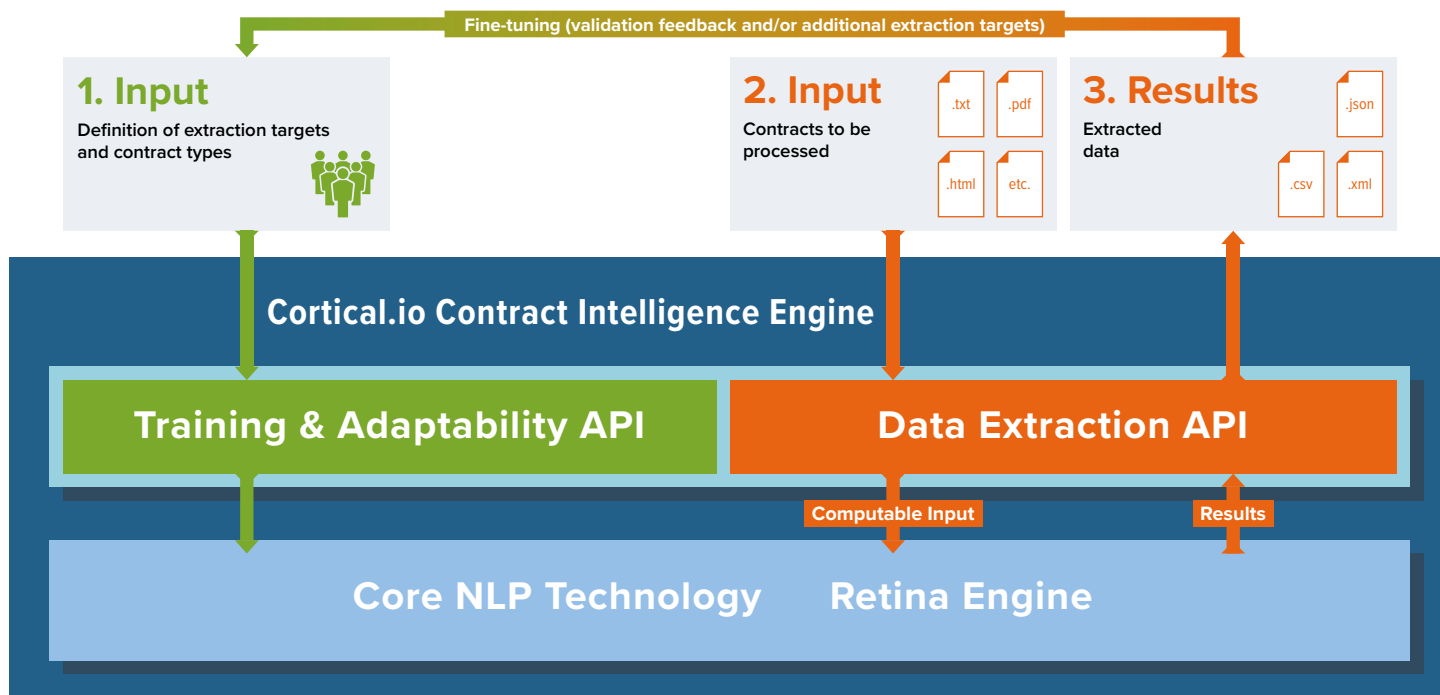
So what makes the difference with Cortical.io?

Analysis of meaning

One of the secrets to the success of the Cortical.io Contract Intelligence Engine lies in a unique, meaning-based algorithm that draws from neuroscientific research into how the human brain processes information. Natural language understanding (NLU) deals with how machines can comprehend the meaning of text. The Cortical.io Contract Intelligence Engine uses a unique NLU technology to analyze the meaning of not just keywords but of whole sentences, paragraphs, and long text so that the problems of language ambiguity and vocabulary mismatch within and across documents are overcome. For example, the sentences "we closed the deal" and "the contract was signed" have similar meanings but use completely different words; the Cortical.io Contract Intelligence Engine recognizes that similarity.

Quick, interactive learning process

With the Cortical.io Contract Intelligence Engine, you can extract information from new contract types quickly based on how the requested information is written in **only three to ten sample contracts**. The technology amplifies company intelligence and increases accuracy through an iterative fine-tuning process involving your subject-matter experts who are knowledgeable in the business domain.

First, SMEs define the type of information that they want to extract. In the following unsupervised learning phase, **the Cortical.io Contract Intelligence Engine learns to recognize contract vocabulary and concepts** (for example, facilities, loans, variations of dates, and parties to an agreement) and **forms relationships** among these concepts. Based on the results of the extraction, SMEs fine-tune the system by adding to or modifying the type of information requested.

Case study
How a **Big Four** accounting firm reduced review time of lease agreements by 80%

Customer: Major audit and management consulting company

Goal: Automate the extraction of information from lease agreements with a fast, reliable solution that also frees up human resources to work on higher-value tasks

Challenges:
- Due to both international and US regulation changes (the new IFRS 16 and ASC 842 lease accounting standards), the firm has the task of helping its customers disclose all leases on the balance sheet
- Large enterprises might have hundreds of thousands of lease agreements, which must be scoured for relevant information
- Lease agreements are not standardized: different lessors use multiple different formats
- Manual processing of very high volumes of complex agreements is costly and prone to human error
- Keyword-based search systems are not well suited to the task because the same type of information can be expressed using many different terms

Solution: Incorporation of the Cortical.io Contract Intelligence Engine as the data extraction component within the existing contract-processing workflow.
The engine automatically:
- Processes documents in English, German, and Spanish
- Handles PDF files from scanned lease agreements that have undergone optical character recognition (OCR)
- Extracts precise key data, such as amounts, dates, and addresses
- Extracts defined types of clauses and classifies agreements accordingly
- Infers missing information in agreements from the presence of other pieces of data
- Feeds all extracted information into the firm's lease-management tool, enabling that tool to:
  - Instantly fill a summary sheet with data for each agreement
  - Display each summary sheet beside the corresponding agreement for quick review by a subject-matter expert
  - Highlight the extracted information in the displayed agreement

Results:
- 80% reduction in manual review and data extraction time
- Significant reduction in lease-processing costs
- Reassignment of expensive human resources to tasks of higher added value
- Quick provision of accurate data from high volumes of leases, assisting subject-matter experts in preparation of clients' balance sheets

The Cortical.io difference:
- The solution was seamlessly integrated into the accounting firm's contract-processing workflow
- Extraction models could be trained very quickly based on annotations by the firm's subject-matter experts on only a handful of sample lease agreements
- The solution instantly extracts quality structured data from agreements
- The subject-matter experts have control over improving the process by verifying, correcting, and adding extraction targets

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