

# Clustering Unstructured Information with Core

With Abacus chatbot technology, CORE data processing – the gathering of information from digital data – millions of data points have to be gathered and rendered understandable. But how do you search through copious numbers of documents within a short space of time? This is where Abacus CORE Analytics and Data Processing come into play. CORE, as it's often referred to, is a smart tool that categorizes data and renders it "understandable" with extraordinary speed and accuracy.

“We can index millions of data points for search and retrieval using CORE. This is the 'brain' behind Abacus”

### CORE is the Brain for Abacus

CORE is being used to assist in indexing millions of loan documents, titles, employee training manuals and even legal cases. Lisa Gillespie, Partner at Abacus Analytics, explains: “We understood that for Abacus the chatbot to work well, [we] needed an underlying algorithm directing the data processing. CORE enables us to accomplish indexing at exceedingly efficient rates.”

The Abacus team performs a full index of websites, intranets, and even documents. This indexing is run every night, and updates the data used to operate Abacus the Virtual Assistant.

Our team has spent years developing CORE, a tool that uses Machine Learning and Cluster Analysis to search through unstructured data, such as emails, Word documents and PowerPoint presentations. Gillespie outlines how CORE facilitates the search process: “CORE shows us what types of documents are available for indexing, and can make an initial selection based on our instructions. But a majority of the selection happens using automated systems that learn over time.” Among other things, CORE can identify what is being discussed in a document, and how topics relate to one another. This creates a 'neural network' of data points and their context.

CORE is self-learning: the tool gains new knowledge from each data set, and improves its ability to navigate

each time. “CORE recognizes documents automatically, and is accurate at predicting which other documents are relevant by recognizing patterns within text,” says Gillespie. “For example, we can show our clients breakdowns in visual formats, which make it clear to see at a glance what we have found, how the data relates, and where context needs amending.”

### Faster and more effective

CORE categorizes relevant data not only far more quickly, but also far more effectively than people can, asserts Gillespie. “Some scientific studies have pitted a human review against a machine learning tool, and they showed that machine learning generates far better results.” This does not mean, however, that CORE works without supervision. A random sample is taken from every review carried out by the tool in order to check how well machine learning is working on the entered data set.

CORE is currently being used for Dashboard Analytics, and Abacus chatbot technology, but it is also suitable for broader applications. Gillespie: “We intend to expand into other areas where the applications of supervised data processing are relevant. CORE can also make a significant difference in contract analysis, fraud detection, and Robotic Process Automation (RPA).”

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