



Text Analytics: Unlocking the power of Business Data



Due to the development in the use of unstructured text data, both the volume and diversity of data used have significantly increased. For making sense of such huge amounts of acquired data, businesses are now turning to technologies like [text analytics](#) and Natural Language Processing (NLP).

The economic value hidden in these massive data sets can be found by using [text analytics](#) and natural language processing (NLP). Making natural language understandable to machines is the focus of NLP, whereas the term “text analytics” refers to the process of gleaning information from text sources.

What is text analysis in machine learning?

The technique of extracting important insights from texts is called text analysis.

ML can process a variety of textual data, including emails, texts, and postings on social media. This data is preprocessed and analyzed using specialized tools.

Textual analysis using machine learning is quicker and more effective than manually analyzing texts. It enables labor expenses to be decreased and text processing to be accelerated without sacrificing quality.

The process of gathering written information and turning it into data points that can be tracked and measured is known as text analytics. To find patterns and trends in the text, it is necessary

to be able to extract quantitative data from unprocessed qualitative data. AI allows this to be done automatically and at a much larger scale, as opposed to having humans sift through a similar amount of data.

Process of text analysis

Assemble the data- Choose the data you'll research and how you'll gather it. Your model will be trained and tested using these samples. The two main categories of information sources are. When you visit websites like forums or newspapers, you are gathering outside information. Every person and business every day produces internal data, including emails, reports, chats, and more. For text mining, both internal and external resources might be beneficial.

Preparation of data- Unstructured data requires preprocessing or preparation. If not, the application won't comprehend it. There are various methods for preparing data and preprocessing.

Apply a machine learning algorithm for text analysis- You can write your algorithm from scratch or use a library. Pay attention to NLTK, TextBlob, and Stanford's CoreNLP if you are looking for something easily accessible for your study and research.

How to Analyze Text Data

Depending on the outcomes you want, text analysis can spread its AI wings across a variety of texts. It is applicable to:

Whole documents: gathers data from an entire text or paragraph, such as the general tone of a customer review.

Single sentences: gathers data from single sentences, such as more in-depth sentiments of each sentence in a customer review.

Sub-sentences: a sub-expression within a sentence can provide information, such as the underlying sentiments of each opinion unit in a customer review.

You can begin analyzing your data once you've decided how to segment it.

These are the techniques used for ML text analysis:

Data extraction

Data extraction concerns only the actual information available within the text. With the help of text analysis, it is possible to extract keywords, prices, features, and other important information. A marketer can conduct competitor analysis and find out all about their prices and special offers in just a few clicks. Techniques that help to identify keywords and measure their frequency are useful to summarize the contents of texts, find an answer to a question, index data, and generate word clouds.

Named Entity Recognition

NER is a text analytics technique used for identifying named entities like people, places, organizations, and events in unstructured text. It can be useful in machine translation so that the program wouldn't translate last names or brand names. Moreover, entity recognition is indispensable for market analysis and competitor analysis in business.

Sentiment analysis

Sentiment analysis, or opinion mining, identifies and studies emotions in the text.

The emotions of the author are important for understanding texts. SA allows to classify opinion polarity about a new product or assess a brand's reputation. It can also be applied to reviews, surveys, and social media posts. The pro of SA is that it can effectively analyze even sarcastic comments.

Part-of-speech tagging

Also referred to as "PoS" assigns a grammatical category to the identified tokens. The AI bot goes through the text and assigns each word to a part of speech (noun, verb, adjective, etc.). The next step is to break each sentence into chunks, based on where each PoS is. These are usually categorized as noun phrases, verb phrases, and prepositional phrases.

Topic analysis

Topic modeling classifies texts by subject and can make humans' lives easier in many domains. Finding books in a library, goods in the store and customer support tickets in the CRM would be impossible without it. Text classifiers can be tailored to your needs. By identifying keywords, an AI bot scans a piece of text and assigns it to a certain topic based on what it pulls as the text's central theme.

Language Identification

Language identification or language detection is one of the most basic text analysis functions. These capabilities are a must for businesses with a global audience, which in the age of online, is the majority of companies. Many text analytics programs are able to instantly identify the language of a review, social post, etc., and categorize it as such.

Benefits of Text Analytics

There is a range of ways that [text analytics](#) can help businesses, organizations, and event social movements:

1. Assist companies in recognizing customer trends, product performance, and service excellence. As a result, decisions are made quickly, business intelligence is improved, productivity is raised, and costs are reduced.
2. Aids scholars in quickly explore a large amount of existing literature and obtain the information that is pertinent to their inquiry. This promotes quicker scientific advancements.
3. Helps governments and political bodies make decisions by assisting in the knowledge of societal trends and opinions.
4. Search engines and information retrieval systems can perform better with the aid of text analytics tools, leading to quicker user experiences.
5. Refine user content recommendation systems by categorizing similar content.

Conclusion

Unstructured data can be processed using text analytics techniques, and the results can then be fed into systems for data visualization. Charts, graphs, tables, infographics, and dashboards can all be used to display the results. Businesses may immediately identify trends in the data and make decisions thanks to this visual data.

Robotics, marketing, and sales are just a few of the businesses that use ML text analysis technologies. To train the machine on how to interact with such data and make insightful conclusions from it, special models are used. Overall, it can be a useful strategy for coming up with ideas for your company or product.F