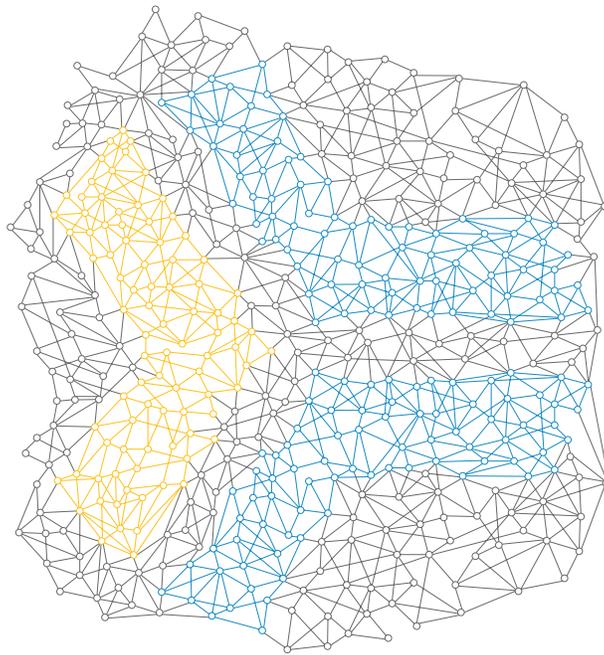




Gaining Insights From Unstructured Data



Written by Janet Wagner for AlchemyAPI, An IBM Company





Overview

AlchemyAPI, an IBM Company, recently published an [article](#) about the types of solutions organizations should consider when it comes to solving the many problems associated with unstructured data. The article includes solutions such as data monitoring, storage, analysis, APIs, and more. Discovering key business insights to gain a significant competitive advantage is one of the most important problems that need to be solved when it comes to unstructured data.

This article covers many of the methods that organizations can use to gain valuable business insights from unstructured data. Methods covered in this article include data analytics, natural language processing, computer vision and location intelligence.

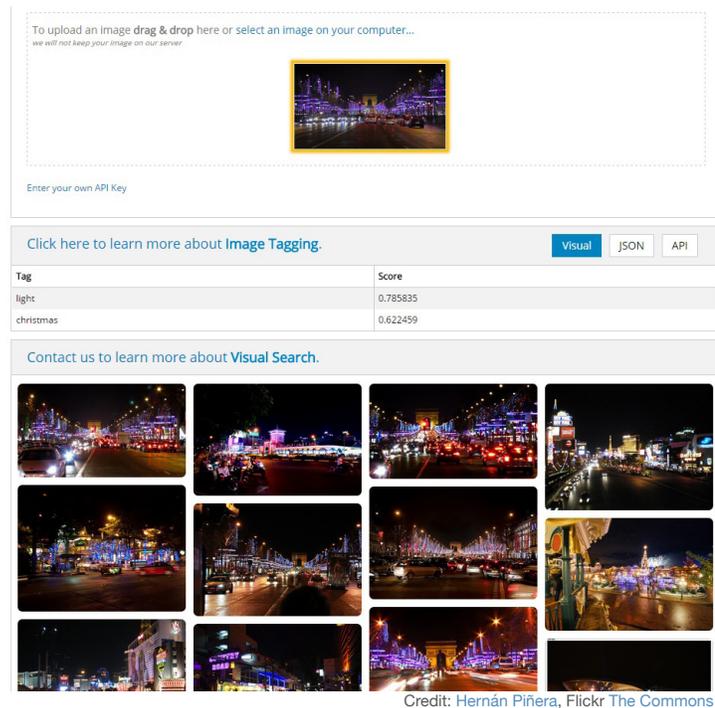
Most of the companies mentioned in this article provide APIs that developers can use to integrate their platforms with applications and existing systems.

Primary Types of Data Analytics

What Are Data Analytics?

A common method for getting value from unstructured data is data analytics. Data analytics refers to techniques and processes that allow meaningful patterns to be discovered from large sets of data.

There are three primary types of analytics; descriptive, predictive and prescriptive. There is also a newer type of analytics called location analytics which is often included in location intelligence platforms. Location intelligence is covered later in this article.



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Tag	Score
light	0.785835
christmas	0.622459

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Descriptive Analytics

Descriptive analytics involves the examination of key performance indicators (KPIs) and other business metrics to provide a thorough view of “what has happened” and “what is happening now.” Descriptive analytics is used by organizations to evaluate the current status of the business and to facilitate smart, data-driven business decisions.

Descriptive analytics is the traditional type of analytics that most organizations are familiar with and currently use. This type of analytics usually involves basic data visualization such as charts and graphs that are displayed on dashboards. There are a lot of companies that provide descriptive analytics platforms, far too many to list. A few examples of companies that offer descriptive analytics solutions include [Alteryx](#), [Amazon](#), [Birst](#), [Google](#), [IBM](#), [SAP](#), [SAS](#), [Tableau](#), and [Tibco](#).

Digital dashboards are very popular these days and there are companies that provide platforms specifically designed for creating customizable analytics dashboards. Popular dashboard platforms include [Ducksboard](#), [Geckboard](#), [Cyfe](#), [GoodData](#), [Keen Io](#), [Leftronic](#), and [Klipfolio](#).



Predictive Analytics

Predictive analytics involves the use of statistical techniques and predictive modeling to anticipate future behaviors, trends, or events from data that has been gathered over a set period time. Predictive analytics is used by organizations to anticipate “what will happen” in the future.

The popularity of predictive analytics started taking off towards the end of 2012 and the interest in predictive analytics platforms has grown rapidly in the past few years. There are many use cases for predictive analytics, for example:

- Financial organizations can use predictive analytics to discover patterns in their structured and unstructured data that indicate fraudulent behavior.
- Online retailers can use predictive analytics to anticipate what their customers are interested in purchasing and to improve customer experience by providing more accurate shopping recommendations.

Companies that provide platforms featuring predictive analytics capabilities include [Apigee](#), [BigML](#), [Bottlenose](#), [GoodData](#), [IBM](#), [Microsoft](#), [OpenText](#), [SAP](#), [SAS](#), and [Tibco](#).



Prescriptive Analytics

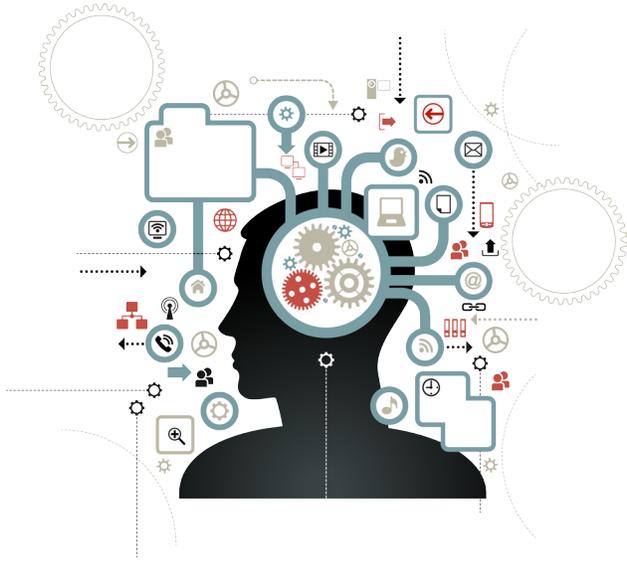
Prescriptive analytics utilizes descriptive and predictive analytics. It is used by organizations to determine “what should happen.” Prescriptive analytics provides recommendations aimed at improving future outcomes and provides explanations as to why specific actions are recommended. There are many ways that organizations can use prescriptive analytics to their advantage, for example:

- Financial institutions can use prescriptive analytics to make better lending decisions and to reduce future lending risks.
- Retailers can use prescriptive analytics to analyze their customer’s reception of prior sales offers and determine the types of sales offers that should be used.

Companies that provide prescriptive analytics platforms include [IBM](#), [SAS](#), and [Tibco](#).



Using Natural Language Processing for Better Text Analysis



Natural language processing (NLP) is a branch of artificial intelligence that involves computers analyzing, understanding, and generating human languages.

It is one of the many applications for machine learning and often employs advanced linguistic, statistical, and deep learning algorithms as well as complex neural networks.

NLP platforms make it possible for numerous documents containing a large amount of text to be quickly read, analyzed, tagged, and classified. They also allow key business insights to be extracted from vast amounts of structured and unstructured data, regardless of whether the data is historical or in real time.

Social media monitoring and sentiment analysis are among the most popular uses of natural language processing. Sentiment analysis makes it possible for companies to discover consumer sentiment about their products, brands, and services in real time.

Natural language processing can be used to create improved digital advertising by analyzing text content and context and displaying relevant and personalized ads.

AlchemyAPI's NLP Services

AlchemyAPI offers a text analysis service that features a suite of NLP APIs that can be used to analyze vast amounts of unstructured data and add high-level semantic information. At the time of publication, AlchemyLanguage APIs include:

- Entity Extraction
- Sentiment Analysis
- Keyword Extraction
- Concept Tagging
- Relation Extraction
- Taxonomy Classification
- Author Extraction
- Language Detection
- Text Extraction
- Microformats Parsing
- Feed Detection
- Linked Data Support





Location Intelligence

Location intelligence involves analyzing data using GIS technology to discover meaningful insights from the geographical relationships found in most information. Location intelligence often includes the use of location analytics which involves the use of GIS and mapping technology to visualize the location components of an organization's business data and unstructured data.

Location analytics is used by organizations to discover new patterns, geographical trends, location based behaviors, and other geographical/location based insights from data (historical and real-time). The popularity and use of location analytics has really taken off in the last few years largely due to the immense popularity of advanced GIS and mapping platforms and the increasing availability of easy to use geographic analysis tools.

Examples of the kind of insights organizations can discover using location intelligence and analytics platforms:

- Retailers can use location analytics to track customer foot traffic, how long customers shop in their stores, and predict the physical movements and behavior of customers. This helps business owners make better in-store marketing and sales decisions.
- Restaurants, coffee shops, and other retailers can use location analytics to prepare for an upcoming local event like a parade or sporting event. Location intelligence and analytics can help these businesses map the upcoming changes and prepare in advance so that there will be enough personnel and supplies on hand.

Companies that provide location intelligence and analytics platforms include [Cisco](#), [Esri](#), [Galigeo](#), [HERE](#) (a Nokia company), [Pitney Bowes](#), [SAS](#), [Tableau](#), [Tibco](#).



Computer Vision



Computer vision is a discipline that utilizes machine learning, artificial intelligence, and other advanced technologies to teach machines how to extract, analyze, and understand information contained in images. One of the most popular uses of computer vision is recognition (face, concept, character, and object). There are many other applications of computer vision such as pattern recognition, mobile visual search, biometrics, and medical image analysis.

AlchemyAPI offers APIs that utilize artificial intelligence, deep learning, and other advanced technologies to understand the content and context found in digital images. AlchemyVision APIs currently include face detection/recognition, image link extraction, and image tagging. Organizations can use AlchemyVision APIs to organize image libraries, improve target advertising, monitor brands, profile target markets, improve consumer experience, and more.

Conclusion

Data analytics, natural language processing, computer vision, and location intelligence are just some of the methods that can be used to extract valuable business insights from unstructured data. Graph analytics is another relatively new and advanced method of gaining important insights from complex, interconnected data. Unstructured data is growing at an incredible rate and the technologies used to analyze unstructured data are advancing right along with it. Organizations need to start using advanced technologies now to gain key business insights and a significant competitive advantage from unstructured data.

Don't wait. Leverage the power of unstructured data today so that your organization can make better business decisions tomorrow.

About AlchemyAPI, An IBM Company

AlchemyAPI's mission is to power smart applications that understand human language and vision by making breakthroughs in deep learning-based artificial intelligence available to everyone. AlchemyAPI is used by more than 40,000 developers across 36 countries and a wide variety of industries to process billions of texts and images every month. For more information, visit our website at alchemyapi.com.

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