

# Big Data and Machine Learning

## How Will They Impact Your Business in 2019?

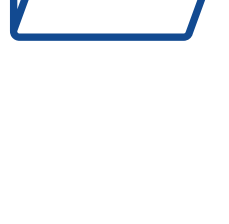
From self-driving cars to online shopping recommendations, artificial intelligence systems like machine learning are reshaping the way industries use data. But are these new technologies realistic for every business?

Learn how you can leverage big data and machine learning to gain a competitive edge in 2019 and beyond.

## What Is Big Data?

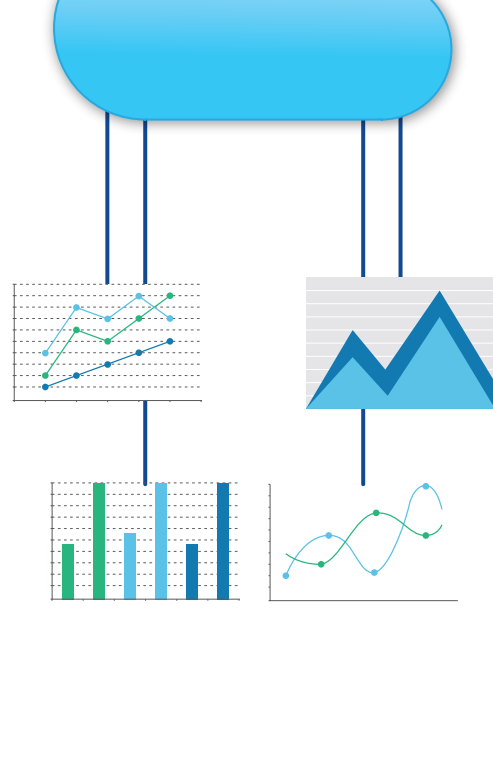
### 44 trillion GB

By 2020, the accumulated volume of big data will equal 44 trillion GB.



Big Data refers to extremely large data sets that can be analyzed to reveal patterns, trends and associations. Insights gleaned from big data can lead to better decisions and strategic business moves.

The concept of big data gained momentum in the early 2000s when industry analyst Doug Laney articulated the now-mainstream definition of big data. It's known as the four Vs.



### Volume

#### Scale of Data

Organizations are able to collect massive amounts of data from various sources, from business transactions to social media and machine-to-machine data.



### Velocity

#### Analysis of Streaming Data

Data streams in at an unprecedented speed and must be processed and analyzed in a timely matter.



## Big Data

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## The Four Vs

### Variety

#### Different Forms of Data

Data comes in all different formats, from numeric data in traditional databases to unstructured data such as text documents, video, audio and email.



### Veracity

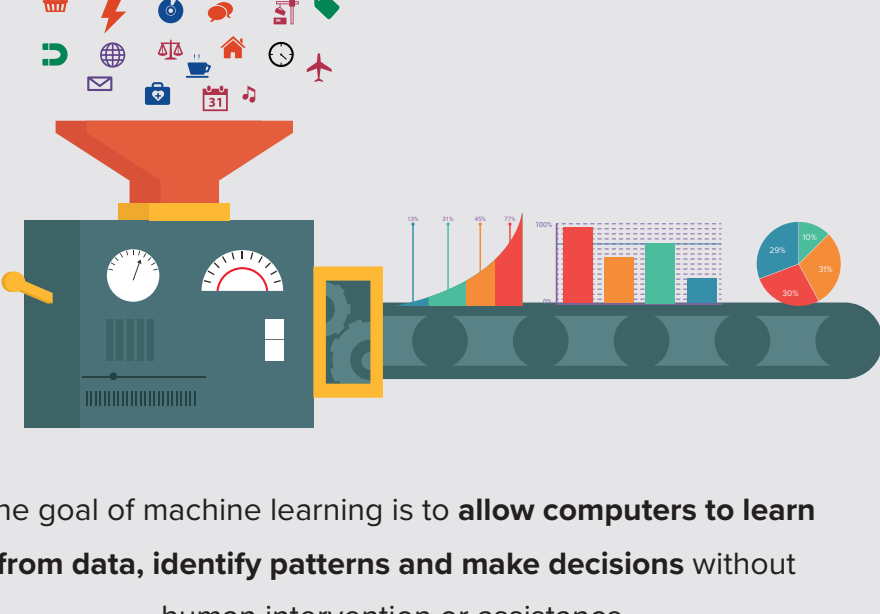
#### Trustworthiness Of Data

There is no guarantee the data you collect will be clean and accurate. Organizations need to keep data consolidated, cleansed and current to extract the right insights.



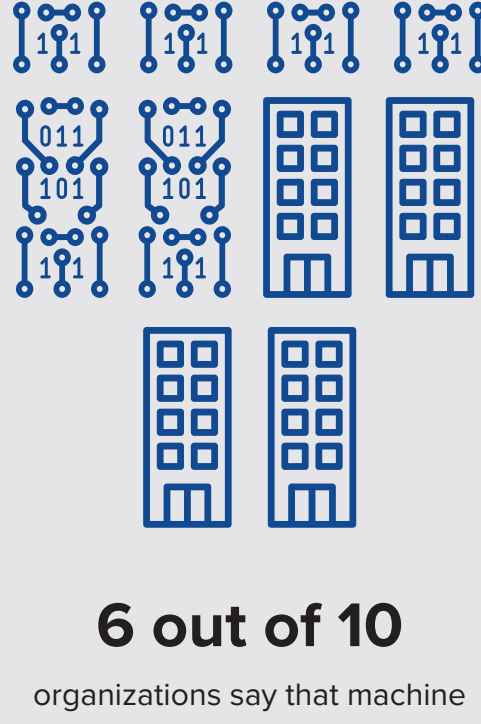
## What Is Machine Learning?

Machine Learning is a method of data science and a branch of artificial intelligence (AI).



The goal of machine learning is to **allow computers to learn from data, identify patterns and make decisions** without human intervention or assistance.

Machine learning algorithms have been around for a long time, but the ability to apply machine learning to big data is a recent development.



### 6 out of 10

organizations say that machine learning/AI is their most significant data initiative for 2019.<sup>2</sup>

## What Industries Benefit from Machine Learning?



Financial Services



Government



Marketing and Sales



Healthcare



Energy and Utilities



Transportation



Most industries that work with large amounts of data recognize the value of machine learning technology. By gleaning insights from big data in real time, organizations can work more efficiently, cut costs and gain a competitive edge.

## Machine Learning Use Cases

- ✓ Personalized content and product recommendations
- ✓ Automated customer service agents
- ✓ Security intelligence
- ✓ Automated preventative maintenance
- ✓ Fraud detection
- ✓ Predictions and modeling



Worldwide spending on cognitive and AI systems will reach **\$77.6 billion** in 2022.<sup>3</sup>

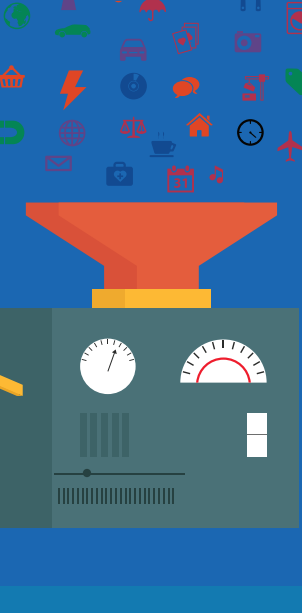
## Big Data & Machine Learning

### What's Ahead in 2019

Organizations that invest in big data and machine learning initiatives in 2019 will face a new set of challenges.

## Handling Large Amounts of Data

Managing the sudden influx of big data and new data formats is a challenge for many organizations. To deal with data growth, **businesses are turning to tools like NoSQL databases, Hadoop, Spark and other BI applications to help them comb through big data** stores and extract the insights they need.



## Talent Shortage

Finding skilled professionals with the technical ability to understand and implement machine learning is no easy feat. Facing high demand and low supply, **businesses are struggling to hire qualified data scientists and data analysts and meet salary expectations.** Training current employees on big data concepts and technologies can help offset the skills gap.



## Data Security

Data comes from a wide range of sources, making security and compliance difficult to manage. To protect big data stores, companies should focus on strengthening security measures like identity and access control, data encryption and data segregation.



## Prepare to Implement Big Data and Machine Learning in Your Organization

Explore Expert-Led Training From New Horizons Today!

### Sources

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