

# Data Science & Machine Learning

Extract knowledge from data in any form

Starting your big data journey can be about as overwhelming as the data itself. Data science and machine learning help you make sense of this data, and can deliver significant value to your business when the right opportunities are identified, the culture uses data to make decisions, and new talents and technology are explored.

## What is Data Science?

Data science is a combination of various tools, algorithms, formulas, and machine learning principles used to draw hidden patterns from raw data. Unlike rear-view reporting, data science reveals the why behind your data—not the how. Benefits of blending data and strategy include happier customers, greater market share, and cost savings—all of which contribute to maximized time for innovation.



### The Value

- Predictive analytics and higher quality insights
- Reduce time to market and operational costs
- Confidence in your systems and data



### The Proof

- Provide actionable business insights in minutes
- Reduce data acquisition time by more than 90 percent
- Scientific approach to leveraging data



### The Outcomes

- Find the best customers, charge the right price
- Make fact-based decisions a key element of strategy
- Aggregate external data to enhance product development

## Azure Databricks

We have an intimate partnership with Databricks, the leading unified analytics platform that offers robust data science capabilities in one consolidated workspace.

**Collaborative Notebooks:** Improve team productivity by enabling team members to collaborate on the data and models in real time, while tracking usage through viewer logs and revision history.

**Machine Learning Environment:** One-click access to preconfigured ML clusters powered by a scalable and reliable distribution of the most popular ML frameworks, built-in ML capabilities, and optimizations for unmatched performance at scale.

**Automated Infrastructure:** Remove operational complexity while ensuring reliability and cost efficiency at scale, so you can focus on the data science instead of DevOps.

## Our Solution

We view data science and machine learning as business tools—more than an algorithm or piece of technology. Our team can provide a path for your data science ambitions while taking the mystery out of how it is accomplished. You bring the data, we bring the data expertise, practice methodology, and technology skills to help you build a data-driven future.

## Scenario 1: Market Leadership

A large bank holding company is looking to maintain its market leadership by adopting new technologies and using data to power innovation. The key to differentiating from its competitors lies in data science and machine learning, which accelerate time to market.

- Effective customer engagement through analytics allows for faster innovation and results in an improved customer experience
- Decision services management improves customer outcomes, increases revenue
- Recommendations engine allows for machine learning-powered customer engagement based on sentiment analysis and product/service data

## Scenario 2: Competitive Advantage

A biotech manufacturer is looking to combat scaling issues with its growing datasets and legacy tools and platforms. The company needs data science to improve its competitive advantage, protect market share, and satisfy unmet data needs.

- Real world clinical and claims data improves patient outcomes, reduces costs
- Sensor and streaming data from IoT devices allows for predictive analytics, which transforms quality of care
- Social data listening and analytics allow for improved patient communications and continuous feedback

## Scenario 3: Customer Experience

An international media company needs a solution to manage massive amounts of network data collected every day. Seeking to become a data-driven enterprise, the company chooses data science to improve customer retention and loyalty.

- Effective customer retention through quality of service and operational efficiency allows for improved consumer outcomes
- Inventory allocation through predicted audience interests allows for network optimization and growth
- Information optimization through recommendation engine improves advertisement and content effectiveness, creates user experience with machine learning

## The Business Problem

“I want to use all data that is available to better serve my company’s purpose and create a culture of learning and growth.”

## The Opportunities

### Maximize Innovation

Reduce work in progress and inventory, freeing up more time for innovation

### Increase Revenue

Reveal the optimal price so you can target your high value customers

### Lower Costs

Allocate costs accurately and understand what drives financial performance

### Improve Decision-Making

Blend data and strategy to make fact-based business decisions

### Enhance Customer Experience

Gain a better understanding of your customers through a continuous feedback loop

### Fail-Fast Culture

Create a permanent culture of learning and experimentation

79%

of executives agree big data can improve competitive position

2.5

quintillion bytes of data are generated by consumers each day

95%

of businesses need to manage unstructured data

As part of the 110-year-old Hitachi Ltd. family, we uphold its legacy of quality, integrity, and excellence. This strong foundation allows us to build trust with our clients, attract the best and brightest people, and create a culture rich in innovation. Through industry-first cloud solutions, we help organizations everywhere to be better every day.