TOP MACHINE LEARNING USE CASES IN E-COMMERCE AND RETAIL IN 2023

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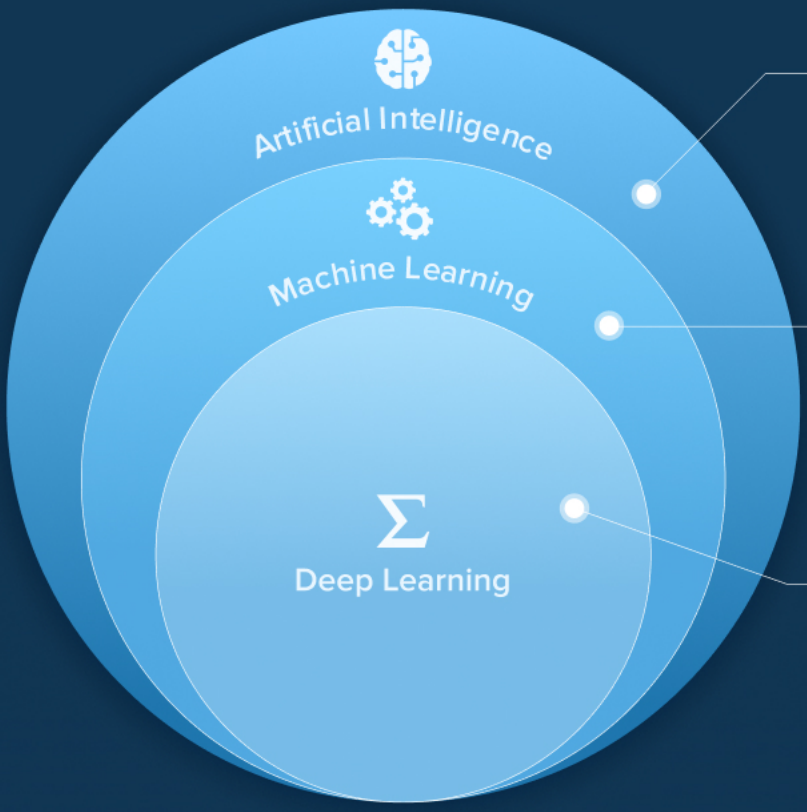
Big Technology Overview



ARTIFICIAL INTELLIGENCE

An umbrella term that refers to mimicking human intelligence processes by computer systems.

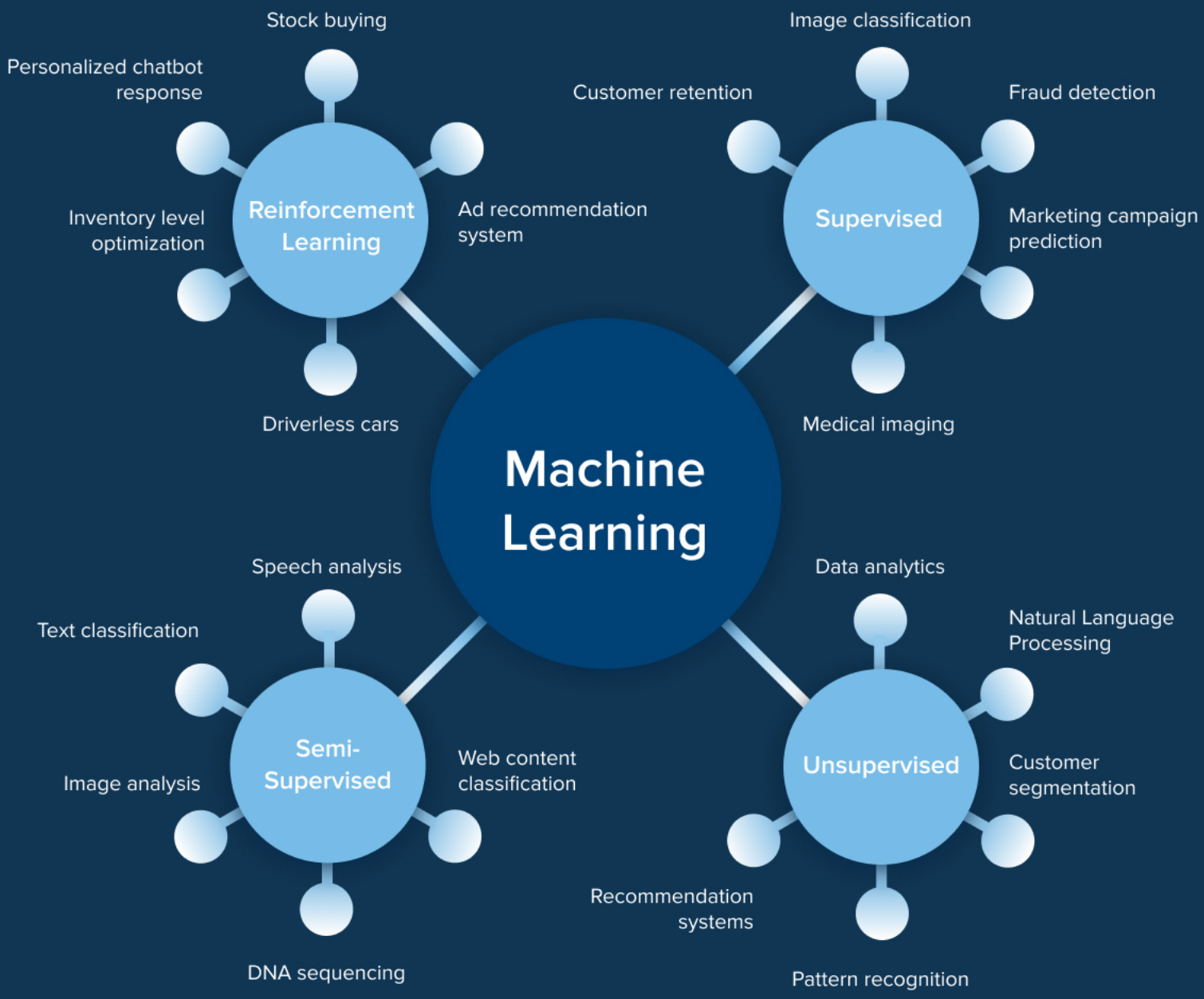
MACHINE LEARNING

A subset of AI that allows for designing and developing algorithms that can learn from data and make predictions.

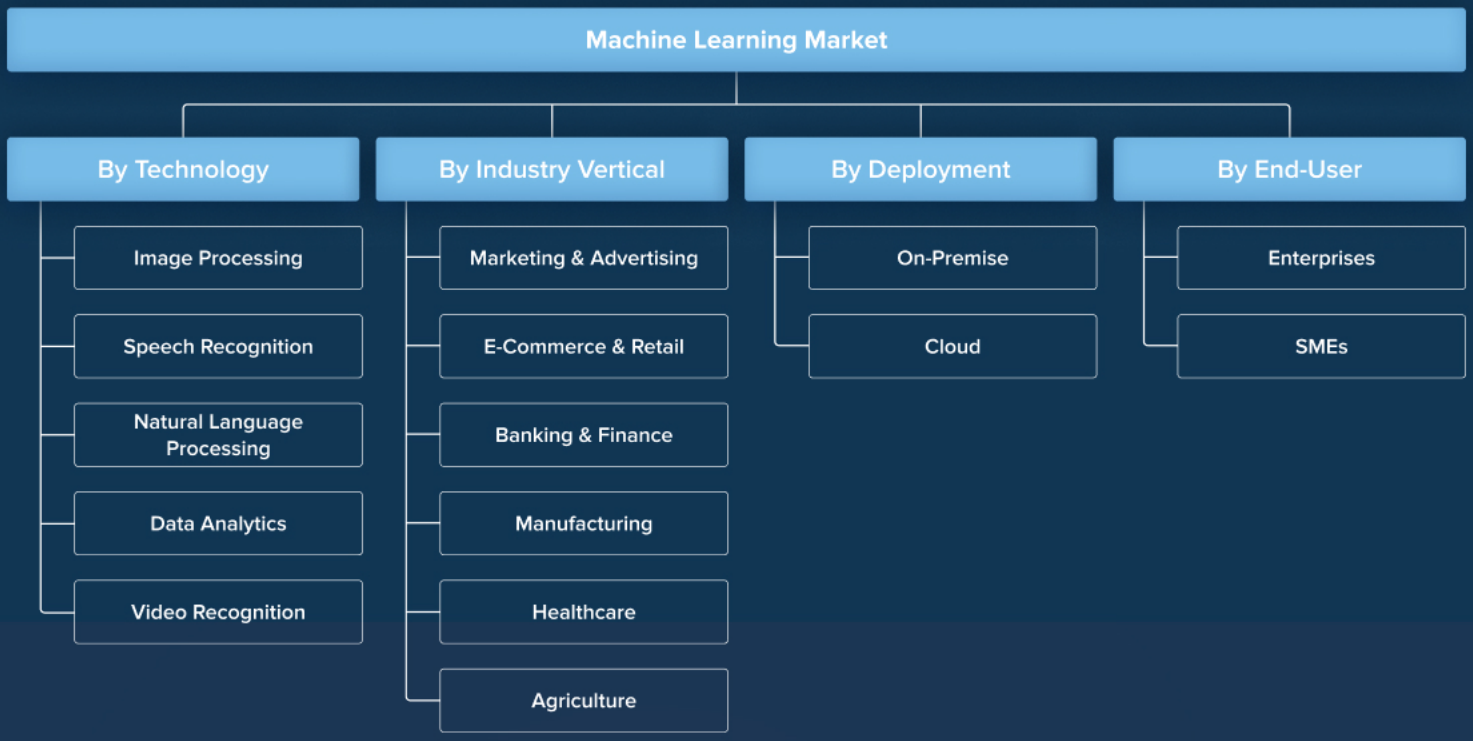
DEEP LEARNING

A branch of ML based on artificial neural networks that can emulate human-decision making capabilities.

Machine Learning Algorithms and Use Cases



Machine Learning Market



Machine Learning Market 2022 - 2030

Market Size	CAGR	Dominating Region	Forecast Period
$21.17 Billion	38.8%	North America	2022 - 2030

E-commerce and Retail Machine Learning Use Cases

AI-enabled technologies allow E-commerce retailers capitalize on the available data and create hyper-personalized customer experiences.

Business Value of E-commerce Machine Learning in Numbers

40%

more revenue generated from ML-enabled personalization.

McKinsey

76%

percentage of customers are likely to purchase from brands that personalize offers.

McKinsey

77%

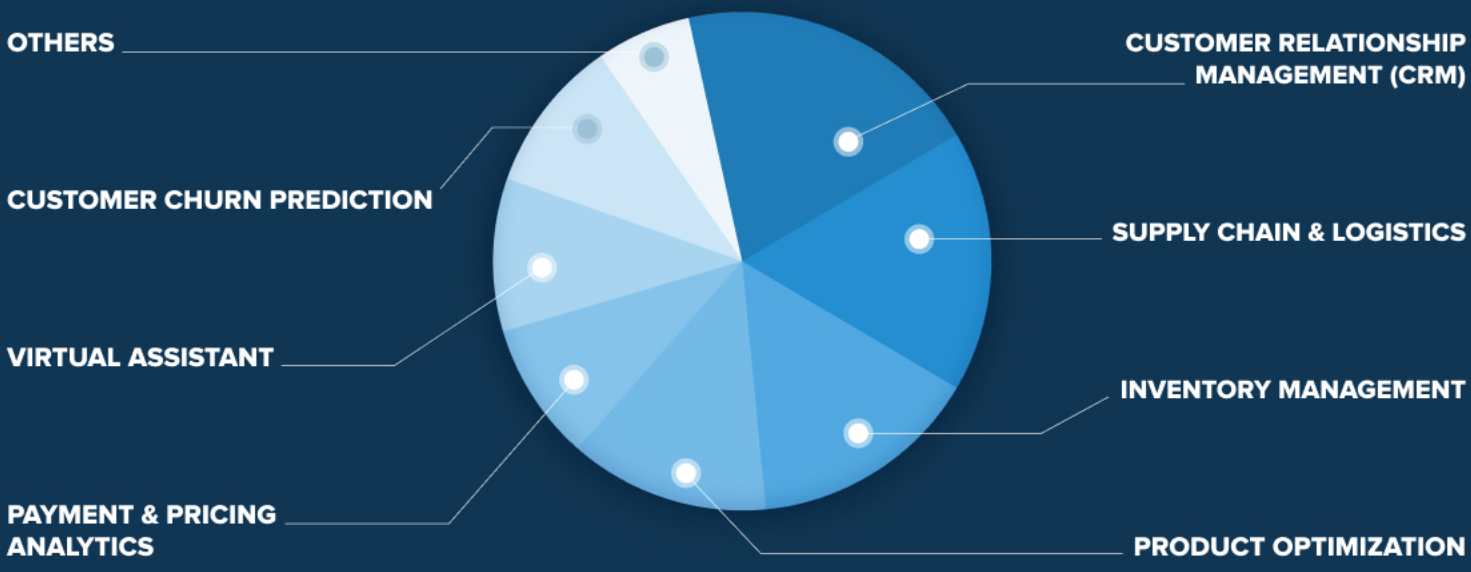
percentage of top performers that tailor customer journeys based on the context of previous interactions.

Aberdeen

Top E-commerce Machine Learning Use Cases

share, by application, 2022

Grand View Research



$21.17B

Global market size of machine learning in retail, 2022.

Top Retail Use Cases for Machine Learning

01

CUSTOMER RELATIONSHIP PLATFORMS

Smart CRM software analyzes customer records and business data at each step of the sales funnel and provides automated insights about the customer and potential marketing initiatives.

SUPPLY CHAIN AND LOGISTICS

ML-enabled data analytics provides full visibility into operations, supports predictive decision-making, and allows for an optimized approach to routing and freight contracting.

02

03

INVENTORY MANAGEMENT

Intelligent algorithms predict inventory levels, forecast demand, reduce inventory waste, and help manage warehouses based on sensor data.

PRODUCT OPTIMIZATION

Machine intelligence provides potent instruments for product quality monitoring, product design, modeling of revenue growth, and product taxonomy.

04

05

PAYMENT AND PRICING ANALYTICS

With real-time analytics, companies can analyze pricing strategies for optimal revenue management, adjust pricing dynamically, and identify payment trends across multiple channels.

VIRTUAL ASSISTANTS

Based on NLP, virtual assistants support self-service for customers, providing them with relevant information, creating product descriptions, and answering queries.

06

Benefits of Intelligent Automation in Retail

REDUCED OPERATIONAL COSTS

SENTIMENT ANALYSIS

OPTIMIZED INVENTORY

AI PREDICTIVE ANALYTICS

ACCURATE FORECASTS FOR ALL RETAIL PLANNING

GRANULAR PERSONALIZATION

ENHANCED CUSTOMER SERVICE

Case Study

Using ML techniques to adjust prices in real time

01

DATA GATHERING

- Create a simulated sales environment
- Gather historical data about the product (seasonality, competitor prices, etc.)

02

ALGORITHM TRAINING

- Cluster the products by type
- Train a dynamic pricing model based on reinforcement learning

03

PREDICTION

- Calculate the maximum value the particular customer is ready to pay at that exact moment

InData Labs

info@indatalabs.com