European Commission

Erasmus+ Webinar on Artificial Intelligence

July 16, 2024 | 18:00 Bogota

July 17, 2024 | 09:00 Sydney

Please check your local times!

Erasmus+
Enriching lives, opening minds

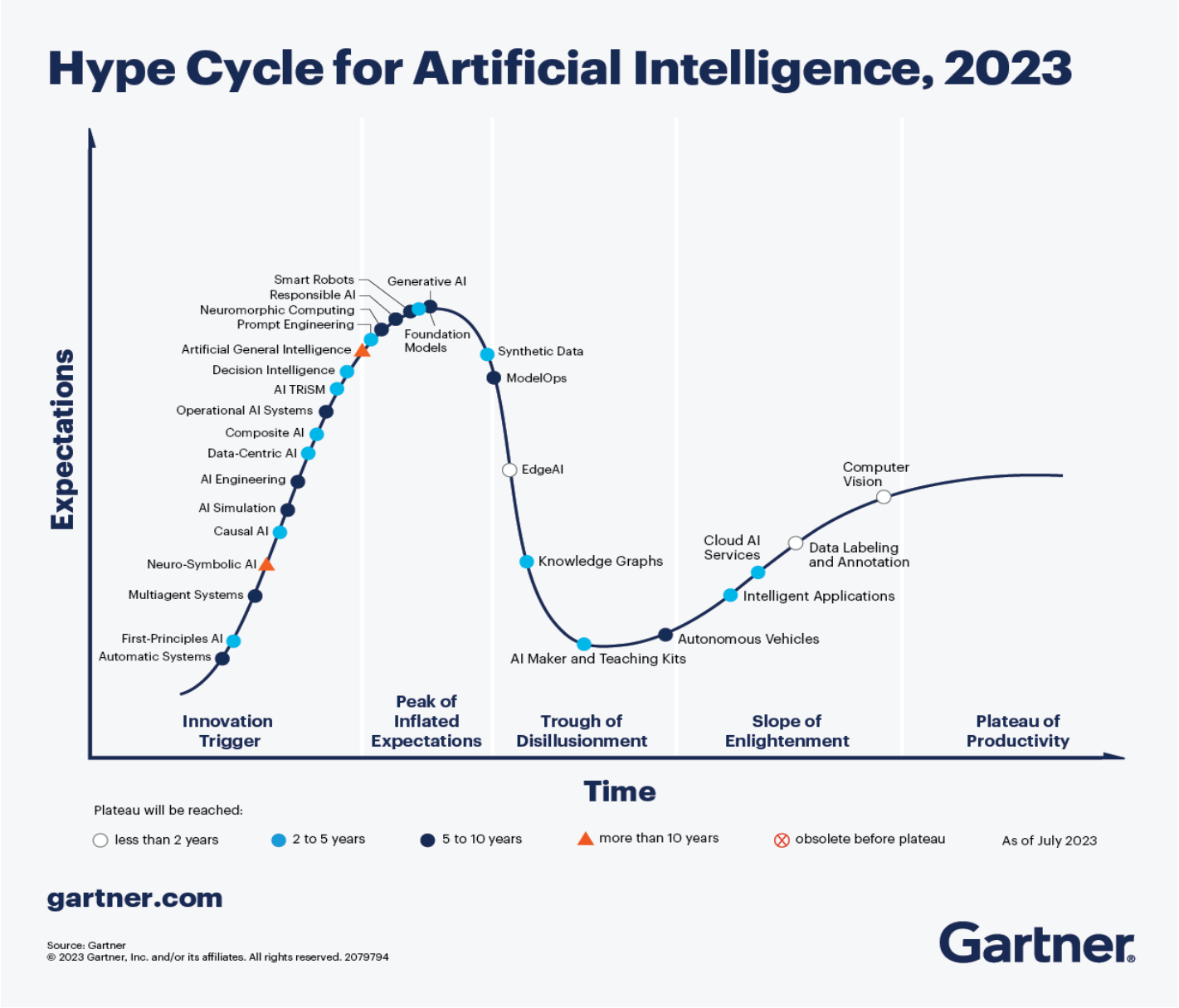
ENFP National Focal Points

Demystifying Humans and AI

Intersections, Convergence and Building Trust

Dr. Jen Elmaco

Gartner Hype Cycle for AI



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How Machines Learn vs How Humans Learn

Learning Process: Humans

1. **Observation and Interaction**: Humans learn by observing the world around them, interacting with others, and experiencing things firsthand.
2. **Sensory Input**: We use our senses (sight, hearing, touch, etc.) to gather information. This sensory input helps us understand our environment.
3. **Understanding and Memory**: Humans use their brain to process information, make sense of it, and store it in memory. This involves recognizing patterns, drawing connections, and understanding concepts.
4. **Trial and Error**: We try different actions, see the results, and adjust our behavior accordingly.
5. **Feedback and Reflection**: We think about what went well, what didn't, and how we can improve.

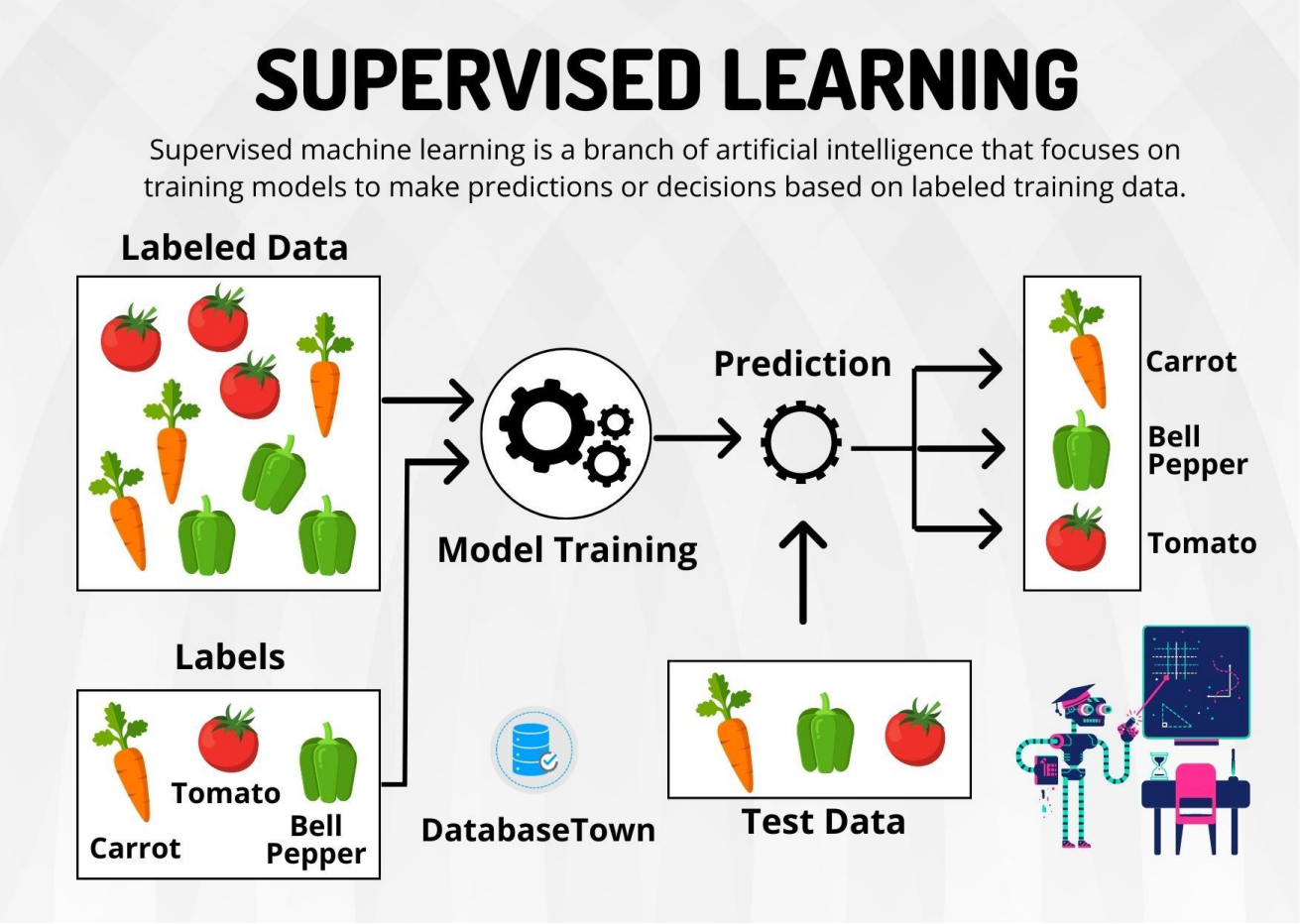
How Humans Learn

How Machines Learn vs How Humans Learn

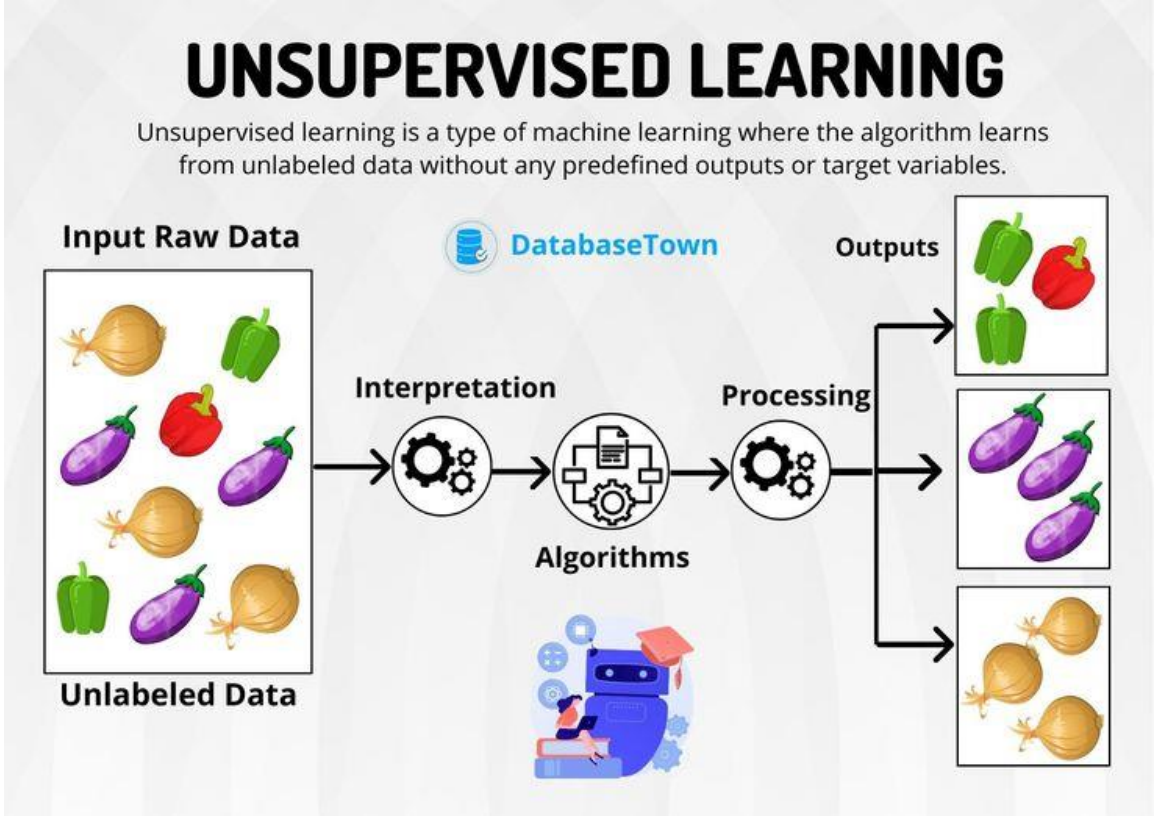
Learning Process: Machines/AI

1. **Data Input**: Machines learn by being fed large amounts of data.
2. **Algorithms**: Algorithms are step-by-step instructions that machines use to make sense of the data.
3. **Training**: During training, the machine processes the data and adjusts its internal settings to improve accuracy.
4. **Feedback Loop**: When the machine makes a mistake, the algorithm tweaks its approach to avoid making the same mistake again.
5. **Iteration**: The machine goes through many iterations of training and adjusting, gradually improving its performance.

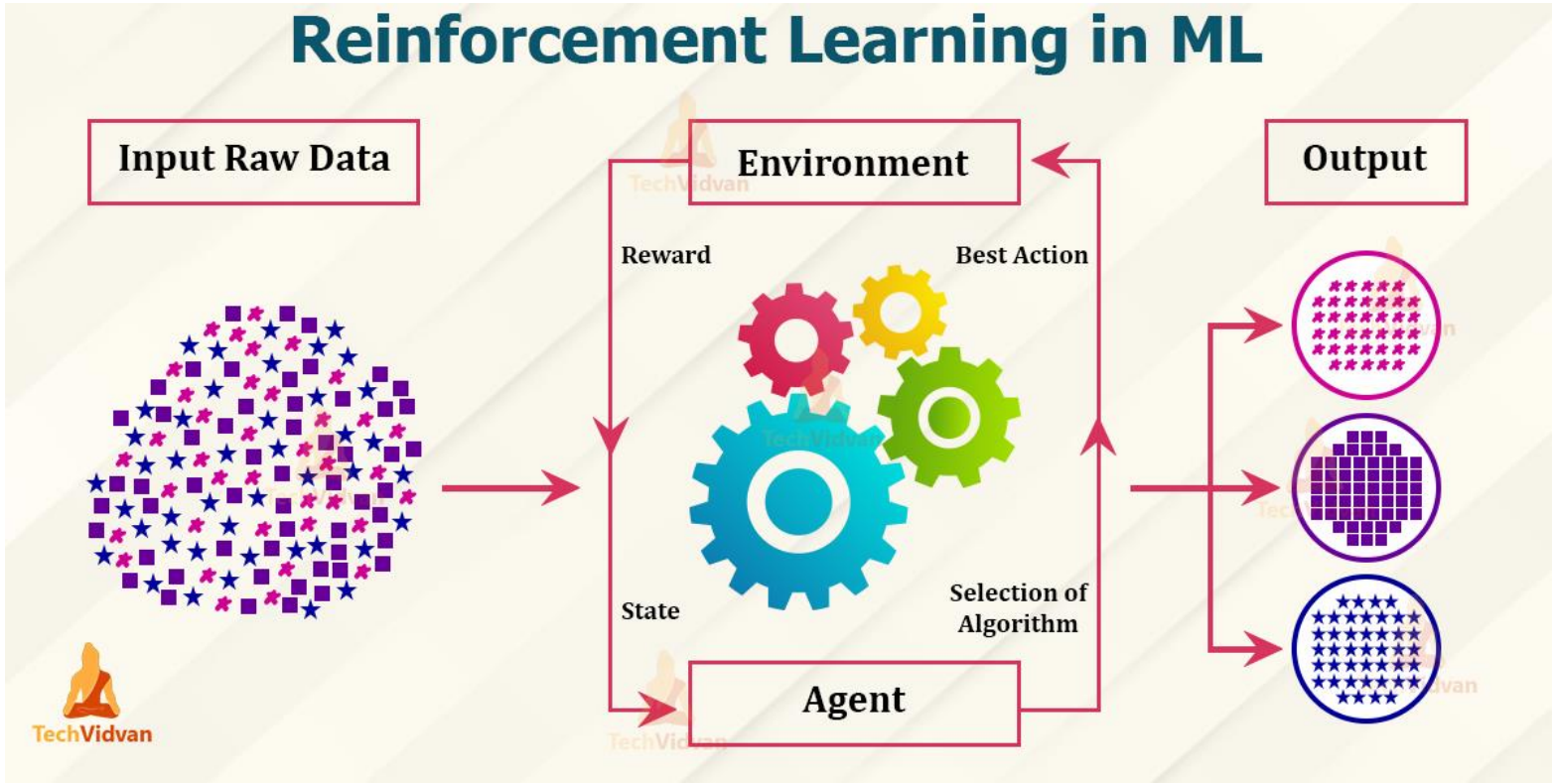
How AI learns: Supervised Learning



How AI learns: Unsupervised learning



How AI learns: Reinforcement Learning



Graphic from: Reinforcement Learning Algorithms and Applications - TechVidvan

Key Differences

1. **Data Processing**:

   Machines: Process large amounts of data quickly and accurately.
   Humans: Process data more slowly but can understand context, emotions, and nuances.

2. **Adaptability**:

   Machines: Need explicit instructions and lots of data to learn new tasks.
   Humans: Can adapt to new situations with less information and can learn from a variety of sources, including intuition and experience.

3. **Learning Speed**:

   Machines: Can process and learn from vast amounts of data very quickly.
   Humans: Learn more slowly but can grasp abstract concepts and think critically.

Implications

Strengths and Weaknesses:

Machines are excellent at tasks that require processing large amounts of data and recognizing patterns.

Humans excel at tasks that require understanding, creativity, and emotional intelligence.

Collaboration:

Combining the strengths of both can lead to powerful outcomes. For example, AI can handle data analysis, while humans focus on strategy and decision-making.

Education:

Understanding how machines and humans learn can help in designing better educational tools and methods, leveraging AI to provide personalized learning experiences.

In a world increasingly governed by technology those who build and control the technology, govern the world

What can we trust?

Technology is neither good or bad; neither is it neutral.

- Melvin Kranzberg

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Technology is a very human activity – and so is the history of technology.

- Melvin Kranzberg

Thank you

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