

# Ask: Ask about **Artificial Intelligence**

Episode 001: The One Where Machines Learn To Be Smart

## How is Machine Learning Different from Artificial Intelligence?

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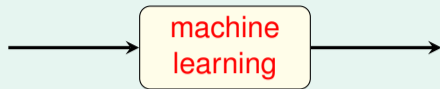
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# Machine Learning Connects (Big) Data and Artificial Intelligence

(big)  
data



artificial  
intelligence

ingredients



tools/steps



dish



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not the only tools, but a **popular family of tools**

# Good AI Needs Both ML and Non-ML Techniques

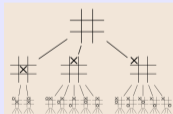


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## Non-ML Techniques

### Monte Carlo Tree Search

- **strategic search** in game tree
- $\approx$  **move simulation** in human brain

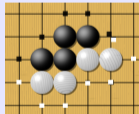


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## ML Techniques

### Deep Learning

- extract **visual patterns** from boards
- $\approx$  **board analysis** in human brain



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### Reinforcement Learning

- (self)-play to improve **from experience**
- $\approx$  **(self)-practice** in human training



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good AI: important to use the **right** techniques—ML **and/or others**

## Take-Home Message

(big)  
data



machine  
learning



artificial  
intelligence

How is Machine Learning Different from Artificial Intelligence?

machine learns from data as  
**one popular route** &  
**one possible route**  
to achieve modern artificial intelligence

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