

# Section 2: Generative AI Foundation

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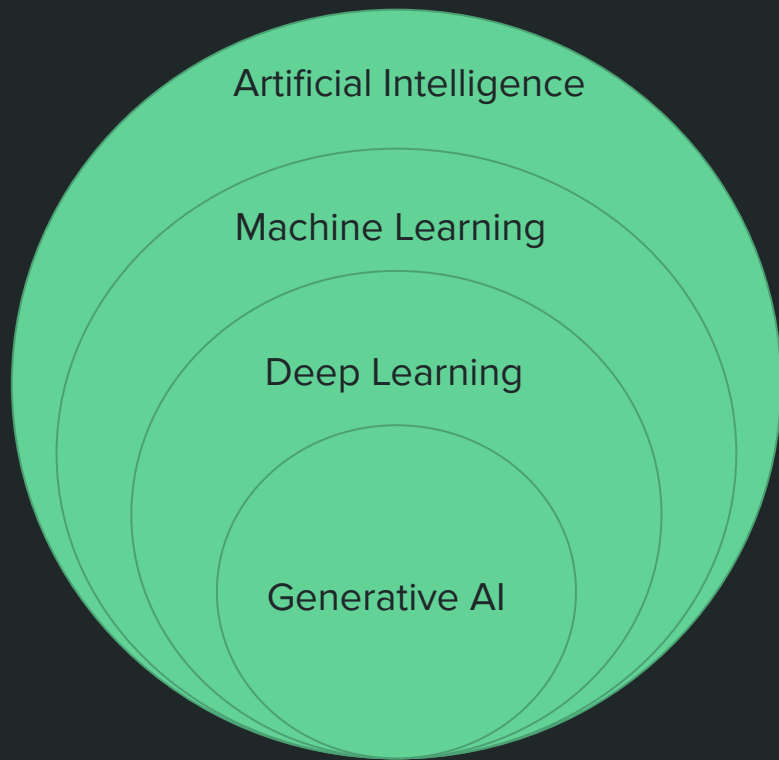
Understanding the Core Concepts 

## 2.1. AI vs ML vs DL vs Generative AI

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# Understanding AI Hierarchy

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## **Artificial Intelligence (AI)**

→ The science of making machines act smart, like humans.



## **Machine Learning (ML)**

→ AI that learns patterns from data to make predictions.



## **Deep Learning (DL)**

→ ML using multi-layered neural networks for complex tasks.



## **Generative AI (GenAI)**

→ AI that creates new content like text, images, and music.

# Real-World Examples

## Artificial Intelligence (AI)

- Siri
- Alexa
- Chess Bot



## Machine Learning (ML)

- Email Spam Filter
- Netflix Recommendations
- Credit Card Fraud Detection



## Deep Learning (DL)

- Face ID Unlock
- Speech-to-text
- Image Classification



## Generative AI (GenAI)

- ChatGPT
- GitHub Copilot
- DALL-E

