

Artificial Intelligence (AI) Overview

Artificial Intelligence (AI) refers to the simulation of human intelligence processes by machines, especially computer systems. These processes include learning, reasoning, problem-solving, perception, and language understanding.

Key Areas of AI:

1. Machine Learning (ML): Algorithms that allow computers to learn patterns from data.
2. Deep Learning: A subset of ML using neural networks to analyze complex patterns.
3. Natural Language Processing (NLP): AI that understands and generates human language.
4. Computer Vision: AI that interprets and analyzes images and videos.
5. Generative AI: Models that create new content such as text, images, audio, and code.

Applications of AI:

- Virtual assistants (Siri, Alexa)
- Automated customer service agents
- Fraud detection systems
- Self-driving cars
- Medical diagnosis tools
- Recommendation systems (Netflix, YouTube)

AI Impact:

AI is transforming industries by increasing automation, improving decision-making, and enabling new innovations. While powerful, it also raises ethical concerns around privacy, bias, and job displacement.

This document serves as a simple sample reference for RAG applications.