Artificial Intelligence Overview

What is AI?

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think and learn like humans. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving.

Types of AI

1. **Narrow AI**: Designed to perform a narrow task (e.g., facial recognition, internet searches, driving a car).
2. **General AI**: A system with generalized human cognitive abilities that can find a solution when presented with an unfamiliar task.
3. **Superintelligent AI**: AI that surpasses human intelligence and ability.

Machine Learning

Machine Learning is a subset of AI that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it to learn for themselves.

Deep Learning

Deep Learning is a subset of machine learning that uses neural networks with many layers (hence "deep") to analyze various factors of data. Deep learning is what powers the most human-like artificial intelligence.

Applications of AI

- Healthcare: Disease identification, patient monitoring

- Finance: Fraud detection, algorithmic trading

- Transportation: Self-driving vehicles, traffic management

- Customer Service: Chatbots, recommendation systems

- Education: Personalized learning, automated grading

Ethical Considerations

The development of AI raises ethical concerns including privacy, bias, unemployment due to automation, and the long-term risk of creating superintelligence that could become difficult to control.