

Artificial Intelligence (AI) is the simulation of human intelligence in machines that are designed to think and act like humans. It includes subfields such as machine learning, natural language processing, and computer vision. AI is widely used in industries such as healthcare, finance, education, and transportation.

Machine Learning (ML) is a subset of AI that focuses on building systems that learn from data and improve their performance over time without being explicitly programmed. ML is used in applications like spam filtering, recommendation systems, and fraud detection.

Deep Learning is a specialized form of machine learning that uses artificial neural networks with many layers. It powers modern innovations like self-driving cars, voice assistants, and image recognition systems.

Natural Language Processing (NLP) enables computers to understand, interpret, and generate human language. It is the technology behind chatbots, translation tools, and sentiment analysis.

Computer Vision allows machines to interpret and analyze visual information from the world. Applications include facial recognition, medical imaging, and autonomous vehicles.

Cloud Computing provides scalable infrastructure for AI and ML models. Services such as AWS, Azure, and Google Cloud allow businesses to train and deploy AI systems efficiently.

DevOps is a set of practices that combines software development (Dev) and IT operations (Ops). It aims to shorten the development lifecycle and deliver high-quality software continuously. Tools like Docker, Kubernetes, and Jenkins are central to DevOps.

Site Reliability Engineering (SRE) is a discipline that applies software engineering to infrastructure and operations problems. SRE ensures that large-scale systems are reliable, scalable, and efficient.

Cybersecurity is the practice of protecting systems, networks, and data from digital attacks. Key areas include encryption, network security, and identity management. With the rise of AI, cybersecurity tools are becoming more intelligent and adaptive.