Artificial intelligence (AI) is an area of computer science that focuses on creating intelligent machines that can think and act like humans.

Programming languages used: LISP, Prolog, Java, Python\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Used in: -\_\_\_\_smartphones\_\_\_\_\_ - \_\_\_\_\_\_\_self-driving cars\_\_\_\_\_\_\_\_\_\_

-\_\_\_\_social networks\_\_\_ -\_\_\_\_\_\_\_\_\_machine vision systems\_\_\_\_

-\_\_\_\_video games\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_banking\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| advantages | disadvantages |
| 1. No human error  2. Zero risks  3.Round-the-clock availability  4. AI machines have no emotions  5.AI machines can make decisions quickly | 1. AI machines incur high costs  2. Machines lack creativity  3.AI machines can kill jobs  4. Sometimes no emotions can scare away  5. AI machines don't understand ethics |

Machine learning  is a field of inquiry devoted to understanding and building methods that "learn" – that is, methods that leverage data to improve performance on some set of tasks.

Deep learning is part of a broader family of [machine learning](https://en.wikipedia.org/wiki/Machine_learning) methods based on [artificial neural networks](https://en.wikipedia.org/wiki/Artificial_neural_network) with [representation learning](https://en.wikipedia.org/wiki/Representation_learning)

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| virtual reality (VR) | augmented reality (AR) |
| 1. Virtual reality refers to a completely simulated environment that is created by a computer.  2. In VR, users typically interact through handheld controllers or body movements.  3. In VR, users typically interact through handheld controllers or body movements.  4. VR is often used for gaming, training simulations, and virtual tours. | 1. Augmented reality involves overlaying virtual elements onto the real world.  2. In AR, users interact with virtual elements using gestures or voice commands.  3. In AR, users interact with virtual elements using gestures or voice commands.  4. AR has a wider range of applications such as education, advertising, and product demonstrations. |

Game programming - specialized field of computer programming that focuses on the development of video games.

Programming languages used: C++, C#, Java, Python

Components of video games: - graphics, game engine, user interface, sounds, physics engine, artificial intelligence.

Types of video games: -

1. Sandbox
2. Real-time strategy (RTS)
3. Shooters (FPS and TPS)
4. Multiplayer online battle arena (MOBA)
5. Role-playing (RPG, ARPG, and More)
6. Simulation and sports
7. Puzzlers and party games
8. Action-adventure
9. Survival and horror
10. Platformer

Robotics - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Languages used: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approaches: -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Building blocks: -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tasks: -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Capabilities:-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Robots consistent characteristics: -1)some sort of mechanical construction - 2)electrical components - 3) some level of computer programming

Energy -

Types of robotic systems: -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

Applications: -\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| benefits | challenges and threats |
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