

Computer Vision

→ is a field of (AI) that enables computers and systems to derive meaningful information from digital images, videos and other visual inputs and take actions based on that information

- If AI enables computers to think, computer vision enables to see, observe and understand.

- Computer vision works much the same as a human vision

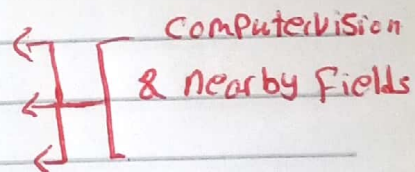
Related fields

- machine learning
- Artificial Intelligence
- physics
- Deep learning
- Mathematics
- Image Processing

Computer Graphics : Models to Images

Computer Photography: Images to Images

Computer Vision : Images to Models



Applications / Examples on Computer Vision:

- Football
- Movies
- Video Games
- Robotic Control
- Street View
- Digital Photography
- Medicine
- Military
- Microscopy
- Remote sensing
- Google Glasses
- Face recognition

Example of state of the art

1) Optical Character recognition (OCR)

→ Technology to convert scanned docs to text

2) Face detection

3) Smile detection

4) object recognition (supermarket)

5) Vision based biometrics

6) Login with your biometrics

7) object recognition

8) Special effects (shape capture)

9) Sports - medical imaging

10) Smart cars

11) Google Cars

12) Vision in space

13) Robots

14) medical imaging

How do we solve CV Problems:

- 1) Build mathematical / Physical model of Problem and implement algorithm with correct properties
- 2) Craft a solution using software libraries of established methods and tailor them to particulars of the Problem
- 3) Gather image data, and use machine learning to provide solution.