2. Computer Vision – Features

Contents

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1. Computer Vision

- ✓ Computer vision is the automated extraction of information from images.
- ✓ The goal of computer vision is to understand the content of digital images.
- ✓ Computer vision is a field of study focused on the problem of helping computers to see.

2. Computer Vision and Image Processing

- ✓ Computer vision is different from image processing.
- ✓ Image processing is the process of creating a new image from an existing image
- ✓ Computer vision system may require image processing.
- ✓ Examples of image processing
  - Increase image brightness or change color.
  - Cropping the images
  - Removing digital noise from an image means low light levels.

3. Computer vision applications

- ✓ Object Classification
  - Broad category of object in image
- ✓ Object Identification
  - Type of a given object in image
- ✓ Object Verification
  - Is the object existing in images?
- ✓ Object Detection
  - Where are the objects in images?
- ✓ Object Landmark Detection
  - Key points for the object in the image
- ✓ Object Segmentation
  - What pixels belong to the object in the image
- ✓ Object Recognition
  - What objects are in this photograph and where are they?

4. Automatic Feature Extraction

- ✓ Features can be automatically learned and extracted from raw image data.

5. Reuse the models

- ✓ We can reuse the existing models

6. Superior Performance

- ✓ Computer vision is very good to get the best results