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Explain what the **scanning strategy is**

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Explain what the scanning strategy is

Scanning in reading is a technique where a reader quickly looks over a text to identify specific information, or keywords without reading every word. This method is particularly useful when you have a specific purpose, or question in mind and want to locate relevant details efficiently. Scanning involves moving your eyes rapidly over the text, often in a zigzag or systematic pattern, to catch key terms, phrases or numbers.

Here are some key features of scanning in reading:

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Key components of the scanning strategy include:

- Purposeful Search
- Use of Headings and Subheadings
- Keywords and Phrases

Keywords about the reading “What is object detection?”:

- Object Detection
- Deep Learning
- Computer Vision
- Image Classification
- Bounding box
- Feature Extraction
- CNN (Convolutional Neural Network)
- Probability Values

CNN (Convolutional Neural Network):

Definition: CNN is a class of deep neural networks designed for processing structured grid data, such as images.

Explanation: image classification and object detection often involve the use of Convolutional Neural Networks (CNNs), which are effective in capturing spatial hierarchies and patterns in images.

Feature Extraction:

Definition: feature extraction is the process of capturing important information, or characteristics from raw data.

Explanation: in machine learning-based object detection methods, features are manually extracted from images using techniques like Histogram of Oriented Gradients (HOG), SURF, LBP, Haar wavelets, and Color histograms.

Bounding Box:

Definition: a bounding box is a rectangular frame that surrounds an object in an image, indicating the object's spatial location.

Explanation: object detection includes recognizing objects by outlining them with bounding boxes, providing a geometric representation of their position.

Probability Values:

Definition: probability values represent the likelihood, or confidence of an object belonging to a particular class.

Explanation: in image classification, when using a CNN, probability values for various targeted classes are output, indicating the model's confidence in assigning the input image to each class.

Keywords and Phrases:

Scanners look for keywords, phrases, or numerical data that are likely to be related to the information they are seeking. The eyes move rapidly across the text to spot these relevant terms.

Computer Vision:

Definition: computer vision is an interdisciplinary field that enables machines to interpret and make decisions based on visual data from the world.

Explanation: object detection is considered a noteworthy application of computer vision, showcasing its ability to process and understand visual information.

Deep Learning:

Definition: deep learning is a subset of machine learning that uses neural networks with multiple layers to learn and make decisions from data.

Explanation: deep learning has gained prominence in artificial intelligence, playing a crucial role in technologies like object detection. It involves complex neural networks for more accurate, and nuanced analyses.

Purposeful Search:

Scanning is employed when you have a specific goal, or question and need to find information quickly. It is not about reading every word but rather searching for particular elements.

Object Detection:

Definition: object detection is a technology within deep learning and computer vision that involves recognizing, and identifying objects, such as humans, buildings, and cars, in images and videos.

Explanation: it goes beyond image classification by not only categorizing objects, but also marking them with bounding boxes, providing a spatial understanding of their location in the image.

Image Classification:

Definition: image classification is a task in machine learning and computer vision where an algorithm assigns a label or category to an input image.

Explanation: object detection is contrasted with image classification, as it involves not only determining whether an object is present but also locating it in the image using bounding boxes.

Use of Headings and Subheadings:

Readers often focus on headings, subheadings and other formatting features to locate information, as these provide clues about the content under them.

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