Stimulation Exercise 6

Answers

1. A) A field of AI that enables computers to interpret and understand visual information

2. A) Image recognition

3. A) To identify and locate objects within an image or video

4. B) Convolutional Neural Networks (CNNs)

5. A) To identify and verify individuals based on their facial features

Answers

6. A) A field of AI that enables computers to interpret and understand visual information

7. A) Image recognition

8. A) To identify and locate objects within an image or video

9. B) Convolutional Neural Networks (CNNs)

10. A) To identify and verify individuals based on their facial features

Stimulation exercise

You are a data scientist working for a security company. Your task is to develop a computer vision system that can detect and recognize faces in real-time video feeds to enhance security measures. You will need to use various computer vision techniques and concepts to achieve this goal.

Questions

1. **Data Collection**: What type of data would you need to collect to train your computer vision model for face detection and recognition?

A) Text documents

B) Audio recordings

C) Images and video footage with labeled faces

D) Financial data

2. **Data Preprocessing: Before training your computer vision model, what preprocessing steps would you take to ensure the data is ready for analysis?**

A) Data cleaning (removing noisy or irrelevant data)

B) Data augmentation (creating additional data samples through transformations)

C) Data normalization (scaling pixel values to a standard range)

D) All of the above

3. Model Selection: **Which type of neural network is most suitable for face detection and recognition tasks?**

A) Recurrent Neural Networks (RNNs)

B) Convolutional Neural Networks (CNNs)

C) Feedforward Neural Networks

D) Support Vector Machines (SVMs)

4. Training the Model: **What is the purpose of using a deep learning model with multiple layers for face detection and recognition?**

A) To capture complex patterns and features in the images

B) To reduce the amount of data needed

C) To increase the model's complexity without improving performance

D) To improve data storage

5. **Model Evaluation: After training your model, which metrics would you use to evaluate its performance in face detection and recognition?**

A) Accuracy

B) Precision

C) Recall

D) All of the above

<p style="text-align:center; color:red; font-weight:bold">Answers</p>

1. C) Images and video footage with labeled faces

2. D) All of the above

3. B) Convolutional Neural Networks (CNNs)

4. A) To capture complex patterns and features in the images

5. D) All of the above

6.