

Question 1

Traditional camera based Facial Expression Recognition (FER) systems are limited by

- A. Obtrusiveness
- B. Occlusion
- C. Privacy concerns
- D. All of the above

Question 2

Which of the following is not a potential application of facial expression recognition?

- A. Depression Detection
- B. Drowsy Driver Detection
- C. Human Activity Recognition
- D. All of the above are valid

Question 3

What are the micro expressions?

(A) Subtle facial muscle movements that convey emotions.

(B) Facial expressions connected to more fundamental and observable emotions like happiness.

(C) Messages that are really emotive and typed in a small font are used for artistic purposes.

- 1. A and B
- 2. Only A
- 3. B and C
- 4. A, B and C

Question 4

What does FACS stand for?

- A. Facial Attribute Coding System
- B. Facial Affect Coding System
- C. Facial Action Coding System
- D. Functional Action Coding System

Question 5

Which of the following statements is False.

(A) Macro expressions last between 0.5 to 4 seconds.

(B) Dynamic facial features are obtained by extracting handcrafted features from selected peak expression frames of image sequences.

(C) Dynamic FER has a higher recognition rate than static FER because it provides additional temporal information.

- A. Only A
- B. Only B
- C. A and B
- D. A and C

Question 6

Deep-learning-based Facial Expression Recognition (FER) approaches, highly reduce the dependence on face-physics-based models along with the pre-processing techniques and enables “end-to-end” learning to occur in the pipeline directly from the input images.

- A. True
- B. False

Question 7

Deep-learning-based Facial Expression Recognition (FER) approaches are more interpretable and viable than conventional Facial Expression Recognition approaches.

- A. True
- B. False

Question 8

Local Binary Patterns are robust to illumination changes.

- A. True
- B. False



Question 9

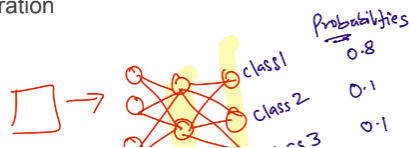
Parkinson's disease is a chronic condition that affects both the neurological system and the bodily components that are under the control of the nervous system. Imagine that you collected Facial Expression Recognition (FER) data from the Parkinson's disease population. For a robust Affect classification system:

- A. Do we need better features representation and classifiers?
- B. Do we need more data?
- C. Only A
- D. Both A and B

Question 10

The final stage in conventional facial expression recognition (FER) systems is expression categorization; deep learning-based FER approaches imitate this step using:

- A. Feature map & pooling operation
- B. Subsampling operation
- C. Softmax operation
- D. Convolution operation



Question 11

Which of the following statements is not true?

- A. ☒ Static FER analyzes single frames of facial expressions captured at specific time points to recognize emotions. *True*
- B. ☒ Dynamic FER, also known as spatio-temporal FER, analyzes a sequence of frames to capture temporal changes in facial expressions, providing information about the onset, apex, and offset of expressions. *True*
- C. ☒ Static FER is computationally less intensive compared to dynamic FER, as it involves analyzing individual frames rather than sequences of frames, making it more suitable for real-time applications with limited computational resources. *True*
- D. ☒ Dynamic FER achieves **lower recognition** performance compared to static FER due to the **complexities introduced by analyzing sequences of frames**, leading to reduced accuracy in emotion recognition. *False* *→ apex*

Question 12

What does "end-to-end learning approach" refer to in deep learning-based facial expression recognition?

- A. Training the network with limited data
- B. Using pre-trained convolutional neural networks
- C. Inputting images directly without face detection
- D. Incorporating hand-engineered features into the network

Question 13

Which factor contributes to the trade-off between traditional and deep learning-based facial expression recognition systems?

- A. Annotation accuracy
- B. Energy consumption
- C. Training time
- D. Hardware compatibility

Question 14

Identify the incorrect statement.

- A. Macro expressions are easily observable and understood facial expressions, such as smiling or frowning, that occur consciously and are typically associated with specific emotions.
- B. Macro expressions occur involuntarily and reveal a person's true emotions, while micro expressions are consciously controlled and are typically used for deliberate communication.
- C. Salient points in a face refer to major facial locations where macro expressions are observed, providing insight into the movement of different facial parts during emotional expression.
- D. Micro expressions are subtle and involuntary facial movements that occur spontaneously and reveal genuine underlying emotions within a very short period of time, often lasting for fractions of a second.

Question 15

Which term best describes the scope of action units in the Facial Action Coding System?

- A. Global facial movements
- B. Whole-face expressions
- C. Localized facial muscle movements
- D. Non-verbal communication cues

Question 16

Which of the following statements best describes Bar's scene context model?

- A. Bar's scene context model proposes that individuals focus solely on global scene perception without considering local features.
- B. According to Bar's scene context model, individuals engage in a detailed analysis of specific facial expressions before processing the overall scene.
- C. Bar's scene context model suggests that individuals first conduct a quick, low-resolution scan of the entire scene before fixating on specific regions of interest.
- D. Bar's scene context model argues that individuals perceive social scenes by analyzing only the most prominent features, ignoring subtle cues.

Question 17

In Bar's scene context model, what is the initial step when observing a scene?

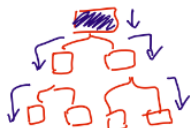
- A. Detailed examination of individual objects → False
- B. Quick scan to obtain a holistic view → True
- C. Fixation on a single region of interest → (second step) → false
- D. Identification of key facial expressions

Question 18

Which of the following statements are true?

- 1. Top-down affect involves analyzing individual facial features
- 2. Top-down affect refers to the influence of social factors on facial expressions.
- 3. Top-down affect entails quickly scanning a scene and fixating on specific regions of interest
- 4. Bottom-up affect involves analyzing facial expressions based on individual features and social significance.
- 5. Bottom-up affect focuses on the overall emotional context of a scene

- A. 1,2,3,4
- B. 2,4,5
- C. 2,3,4
- D. 1,3,4,5



Top Down
↓
Start from the overall view (generic) and move towards more details

Bottom-up
↑
Start from the specific details & then combine to form the overall view

Question 19

What is one of the primary challenges faced by Facial Expression Recognition (FER) systems?

- A. Limited computational resources
- B. Consistent lighting conditions
- C. Variances in facial expressions and individual differences
- D. Homogeneity in facial features across demographics

Question 20

Which of the following features focuses on the spatial arrangement of facial landmarks?

- A) Appearance-based features
- B) Motion features
- C) Geometric features
- D) Deep learning features

Question 21

Local Binary Patterns (LBP) and Histogram of Oriented Gradients (HOG) are examples of which type of feature?

- A) Motion features
- B) Deep learning features
- C) Appearance-based features
- D) Geometric features

1) In the context of facial expression recognition, which statement accurately distinguishes between static and spatio-temporal facial expressions? **1 point**

- ☐ Static expressions involve the movement of facial muscles, while spatio-temporal expressions focus on still images.
- ☐ Static expressions capture emotions over a period of time, while spatio-temporal expressions analyze emotions in a single moment.
- ☒ Static expressions emphasize the spatial configuration of facial features, while spatiotemporal expressions consider both spatial and temporal dynamics of facial movements.
- ☐ Static facial expressions require the use of sensors for detection, while spatio-temporal expressions rely on manual observation by human experts

2) In the context of affective computing, why is it important for a system to be agnostic to different durations of emotional events? **1 point**

- ☐ Because emotional events durations do not vary between individuals.
- ☐ Because shorter emotional events are less significant for analysis.
- ☐ Because longer emotional events indicate a stronger emotional response.
- ☒ Because individuals may have varying durations of emotional expressions, requiring the system to accommodate differences.

3) Which of the following is NOT a commonly detected facial landmark?

- ☐ Nose tip
- ☒ Ear lobe
- ☐ Chin
- ☐ Outer corner of the eye

4) Micro expressions are often detected using:

- ☒ High-speed cameras
- ☐ Thermal imaging
- ☐ Electroencephalography (EEG)
- ☐ Magnetic Resonance Imaging (MRI)

5) Detecting macro emotions with the naked eye is challenging due to their duration being less than 500 milliseconds.

- ☐ True
- ☒ False

6) In the context of social dynamics, what does distance from the centroid indicate?

- ☐ The level of physical activity within the group
- ☐ The degree of space organization within the social setting
- ☐ The distribution of resources among group members
- ☒ The relative importance of individuals in the social setting

7) Why is ensuring fairness important when using a facial expression recognition system for applications related to health and well-being?

- ☐ Fairness adds an essential element of beauty to the system.
- ☒ Fairness prevents bias and discrimination in the system's outputs.
- ☐ Fairness increases the complexity of the system's algorithms.
- ☐ Fairness is not relevant in health and well-being applications.

8) Which of the following is not a potential application of Automatic Facial Expression Recognition?

- ☐ Human-Computer Interaction
- ☐ Emotionally intelligent virtual assistants
- ☒ Weather Forecasting
- ☐ Mental health diagnosis and treatment monitoring

9) In the context of collecting datasets for automatic facial expression recognition, what is a critical consideration regarding the consistency of labelers?

- ☐ Providing equal weightage to all labelers regardless of their consistency
- ☐ Giving more weightage to labelers with inconsistent labeling
- ☒ Giving more weightage to labelers with consistent labeling
- ☐ Ignoring labeler consistency as it does not impact the dataset

10) It is not important to ensure proper copyright clearance when collecting datasets for automatic facial expression recognition

- ☐ True
- ☒ False