

1.2 Academic Flexibility(30)

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

AND

1.2.2 Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title:	FACE RECOGNITION SYSTEM USING MACHINE LEARNING				
Resource Person:	Mr.R.Gopal, Manager, Caliber Embedded Technologies, Salem-636009		Mr.M.Parthiban, CEO, Caliber Embedded Technologies, Salem-636009		
Date of conduct from:	28.08.2023	To:	02.09.2023	Duration:	36 Hours
Organized Department:	DEPARTMENT OF MECHANICAL ENGINEERING				
Participant Year:	2/3/4	Semester:	ODD	No. of Students Registered:	23
Venue:	Lecture hall of II & III year MECH,CIVIL,ECE,EEE				

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DEPARTMENT OF MECHANICAL ENGINEERING

CIRCULAR

In order to bridge the curricular gap between the Academic Syllabus and Industry requirements, Department of Mechanical Engineering and IQAC of our Institution in association with Caliber Embedded Technologies is organizing a **Value Added Course (VAC)** for the students of II, III and IV year of MECH,CIVIL,EEE,ECE on the title "Face Recognition System Using Machine Learning" from 28.08.2023 to 02.09.2023. At the end of the VAC, course completion certificates will be issued to the eligible participants as per the following norms.

- Students, who are securing **more than 70% on total score in the VAC test** and secured more than 75% in VAC attendance is eligible to receive the course completion certificate for the VAC attended.

Resource Person Details	Mr.R.Gopal, Manager, Caliber Embedded Technologies, Salem-636009	Mr.M.ParthiBan, CEO, Caliber Embedded Technologies, Salem-636009.
Venue	Lecture hall of II&III Year MECH,CIVIL,EEE,ECE	



HoD/MECH



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Copy to:

1. Chairman & Secretary for information
2. Principa loffice
3. IQAC Co-Ordinator
4. Class Incharges-II, III & IV- Year MECH,CIVIL,EEE,ECE
5. II, III & IV-Year MECH,CIVIL,EEE,ECE Students
6. MECH,CIVIL,EEE,ECE Notice Board
7. Department File



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Vijayamangalam - 630 656, Tirupur (Dt).

DEPARTMENT OF MECHANICAL ENGINEERING

Ref:SCE / MECH /Students / VAC / 2023 – 2024 / ODD

28.08.2023

SYLLABUS – VALUE ADDED COURSE

“Face Recognition System Using Machine Learning”

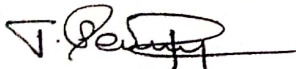
From 28.08.2023 to 02.09.2023 (6days)

Duration: 36 Hours

Academic Year: 2023 -2024/ODD


S.No.	Topics Covered	Duration (In Hours)	Date
1	Introduction to-Face Recognition and Machine Learning	3	28.08.2023
2	Image Processing Fundamentals	3	28.08.2023
3	Feature Extraction for Face Recognition	3	29.08.2023
4	Machine Learning Models for Face Recognition	3	29.08.2023
5	Advanced Topics in Face Recognition	3	30.08.2023
6	Ethical Issues in Face Recognition	3	30.08.2023
7	Face Detection and Tracking	3	31.08.2023
8	Face Recognition with Dataset	3	31.08.2023
9	Practical Implementation and Project Work	3	01.09.2023
10	Tools and Libraries	3	01.09.2023
11	Evaluation and Future Trends	3	02.09.2023
12	Real-Time Face Recognition for Security	3	02.09.2023
Total Hours		36	-

After successful completion of 36 Hours VAC, the assessment test for the VAC titled “Face Recognition System Using Machine Learning” will be conducted on 02.09.2023.


VAC Coordinator


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 **SASURIE COLLEGE OF ENGINEERING,**
Vijayamangalam - 638 056, Tirupur (Dt).

DEPARTMENT OF MECHANICAL ENGINEERING
STUDENTS PARTICIPATION LIST- VALUE ADDED COURSE
“Face Recognition System Using Machine Learning”

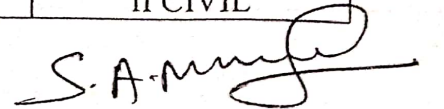
From 28.08.2023 to 02.09.2023(6days)

Duration:36 Hours


Academic Year:2023 -2024/ODD

S.NO	Register No	Name of the students	Branch/Year
1.	732422106001	Avinash S	II ECE
2.	732422106002	Boopathi S	II ECE
3.	732422106003	Gireesh Krishnan V	II ECE
4.	732422106004	Gunavarshini S	II ECE
5.	732422106005	Harish K	II ECE
6.	732422106006	Janagan M.P	II ECE
7.	732422106007	Kavipriya S	II ECE
8.	732422106008	Mayilsamy K	II ECE
9.	732422106009	Navin P	II ECE
10.	732422106010	Rakesh Kumar Mandal	II ECE
11.	732422106011	Rohini K	II ECE
12.	732422106012	Sevanthipriya S	II ECE
13.	732422106013	Sundar P	II ECE
14.	732422106015	Vigneshkannan G	II ECE
15.	732422106016	Vishwa S	II ECE
16.	732421106001	Gokul.S	III ECE
17.	732421106002	Rokesh.P	III ECE
18.	732421106003	Sabari Jothi.S	III ECE
19.	732422105001	Emee.M	II EEE
20.	732422114001	Manikkavel V	II MECH
21.	732420114302	Premkumar Y	IV MECH
22.	732422103001	Dharanidharan K	II CIVIL
23.	732422103002	Vishwa T	II CIVIL


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DEPARTMENT OF MECHANICAL ENGINEERING

STUDENTS ATTENDANCE LIST-VALUE ADDED COURSE

“Face Recognition System Using

Machine Learning”

From 28.08.2023 to 02.09.2023(6days)

Duration: 36 Hours

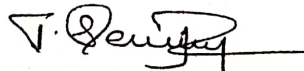
Academic Year: 2023-2024/ODD

S.No	RegNo.	Name of the Student	Year/ Branch	28.09.2023		29.08.2023		30.08.2023		31.08.2023		01.09.2023		02.09.2023		No. of Hours Attended	Signature of the Student.
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
	732422106001	Avinash S	II ECE	/	/	/	/	/	/	/	/	/	/	/	/	36	S. Avinash
2.	732422106002	Boopathi S	II ECE	/	a	/	/	/	/	/	/	/	/	/	/	33	S. Boopathi
3.	732422106003	Gireesh Krishnan V	II ECE	/	/	/	a	a	/	/	/	/	/	/	/	30	V. Gireesh
4.	732422106004	Gunavarshini S	II ECE	/	/	/	a	/	/	/	/	/	/	/	/	33	S. Gunavarshini
5.	732422106005	Harish K	II ECE	/	/	/	/	/	/	a	a	/	/	/	/	30	H. Harish
6.	732422106006	Janagan M.P	II ECE	/	/	/	/	/	/	/	/	a	a	/	/	30	J. Janagan
7.	732422106007	Kavipriya S	II ECE	/	/	/	/	/	a	/	/	/	/	/	/	33	S. Kavipriya
8.	732422106008	Mayilsamy K	II ECE	/	/	/	/	/	/	/	/	/	/	a	/	33	M. Mayilsamy
9.	732422106009	Navin P	II ECE	/	/	/	/	/	/	/	/	/	/	/	/	36	P. Navin
10.	732422106010	Rakesh Kumar Mandal	II ECE	/	/	/	/	/	/	/	a	/	/	/	/	33	R. Rakesh
11.	732422106011	Rohini K	II ECE	/	/	/	/	/	/	/	/	/	/	/	/	30	K. Rohini
12.	732422106012	Sevanthipriya S	II ECE	/	/	/	/	/	/	a	a	/	/	/	/	30	S. Sevanthipriya
13.	732422106013	Sundar P	II ECE	/	/	/	/	/	/	/	/	/	a	/	/	33	P. Sundar




STUDENTS ATTENDANCE LIST-VALUE ADDED COURSE

S.No	RegNo.	Name of the Student	Year/ Branch	28.09.2023		29.08.2023		30.08.2023		31.08.2023		01.09.2023		02.09.2023		No. of Hours Att ended	Signature of the Student
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
4.	732422106015	VigneshKannan G	II ECE	/	/	/	/	/	/	/	/	/	a	/	/	33	G. Vignesh
5.	732422106016	Vishwa S	II ECE	/	a	/	/	/	/	/	/	/	/	/	/	33	Vishwa S
6.	732421106001	Gokul.S	III ECE	/	/	/	/	/	/	/	/	/	/	/	/	36	Gokul.S
7.	732421106002	Rokesh.P	III ECE	/	/	/	a	a	/	/	/	/	/	/	/	30	Rokesh.P
8.	732421106003	Sabari Jothi.S	III ECE	/	/	/	/	/	/	/	/	/	/	/	/	36	Sabari Jothi.S
9.	732422105001	Emee.M	II EEE	/	/	/	/	/	a	/	/	/	/	/	/	33	Emee.M
20.	732422114001	Manikkavel V	II MECH	/	/	/	/	/	/	/	/	/	/	/	/	36	Manikkavel V
21.	732420114302	Premkumar Y	IV MECH	/	/	/	/	/	/	/	/	/	/	/	/	36	Premkumar Y
22.	732422103001	Dharanidharan K	II CIVIL	/	/	/	/	/	/	/	/	/	/	/	/	36	Dharanidharan K
23.	732422103002	Vishwa T	II CIVIL	/	/	/	/	/	/	/	a	/	/	/	/	33	Vishwa T


 VAC Coordinator


Dr.M.VIJAYAKUMAR ME., Ph.D.,
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SASURIE COLLEGE OF ENGINEERING.
 Vijayamangalam - 638 056, Tirupur (Dt).


 HoD/MECH

Report on Value Added Course

Title:	Face Recognition System Using Machine Learning				
Resource Person:	Mr.R.Gopal, Manager, Caliber Embedded Technologies, Salem-636009		Mr.M.ParthiBan, CEO, Caliber Embedded Technologies, Salem-636009.		
Date of conduct from:	28.08.2023	To:	02.09.2023	Duration:	36 Hours
Organized by:	MECHANICAL ENGINEERING and IQAC in association with Caliber Embedded Technologies				
Academic Year:	2023 – 2024		Semester:	ODD	
Participant Year:	II,III,IV Year MECH,CIVIL,ECE,EEE		No.of Students Participated:	23	
Venue:	Lecture hall of II & III year MECH,CIVIL,ECE,EEE				

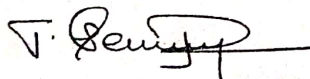
Outcome of Value Added Course (VAC)

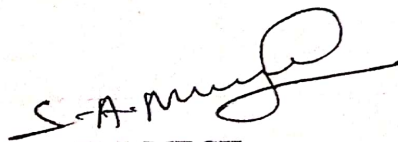
- Design, implement, and optimize a face recognition system from scratch, using machine learning techniques and deep learning models.
- Process and analyze facial images for both detection and recognition tasks, handling variations in facial features, lighting, and pose.
- Evaluate the effectiveness of different face recognition algorithms and select the best approach for a given problem.
- Deploy a face recognition system in real-time applications, ensuring performance, efficiency, and scalability.
- Address ethical concerns and privacy issues related to the use of face recognition systems, and apply mitigation strategies to reduce bias and increase fairness.

Assessment Process

- Students, who are securing more than 70% on total score in the VAC test and secured more than 75% in VAC attendance is eligible to receive the course completion certificate for the VAC attended
- Total Score = $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$


No. of students successfully completed the VAC course is 23 Students based on the above assessment process.


 VAC Co-ordinator


 HoD/MECH


 Principal

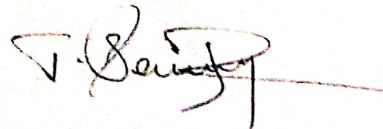

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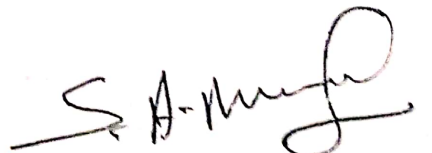

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DEPARTMENT OF MECHANICAL ENGINEERING
Certificate of Participation

This is to Certify that **Mr.Dharanidharan, II/CIVIL** has successfully completed the Value Added Course titled “Face Recognition System Using Machine Learning” Organized by the Department of Mechanical Engineering in association with IQAC of Sasurie College of Engineering and Caliber Embedded Technologies from 28.08.2023 to 02.09.2023 (6 days).


Co-ordinator


Head of the Department

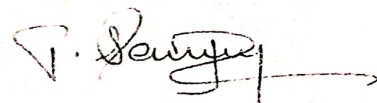

Principal


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DEPARTMENT OF MECHANICAL ENGINEERING
Certificate of Participation

This is to Certify that Ms.EMEE.M, II/EEE has successfully completed the Value Added Course titled “Face Recognition System Using Machine Learning” Organized by the Department of Mechanical Engineering in association with IQAC of Sasurie College of Engineering and Caliber Embedded Technologies from 28.08.2023 to 02.09.2023 (6 days).


Co-ordinator


Head of the Department


Principal


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Vijayamangalam - 638 056, Tirupur (Dt).



DEPARTMENT OF MECHANICAL ENGINEERING
Certificate of Participation

This is to Certify that Mr.HARISH K, II/ECE has successfully completed the Value Added Course titled "Face Recognition System Using Machine Learning" Organized by the Department of Mechanical Engineering in association with IQAC of Sasurie College of Engineering and Caliber Embedded Technologies from 28.08.2023 to 02.09.2023 (6 days).

Co-ordinator

Head of the Department

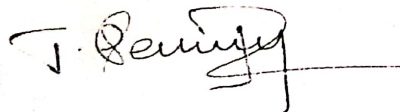
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DEPARTMENT OF MECHANICAL ENGINEERING
Certificate of Participation

This is to Certify that Mr. MANIKKAVEL V, II / MECH has successfully completed the Value Added Course titled "Face Recognition System Using Machine Learning" Organized by the Department of Mechanical Engineering in association with IQAC of Sasurie College of Engineering and Caliber Embedded Technologies from 28.08.2023 to 02.09.2023 (6 days).


Co-ordinator


Head of the Department

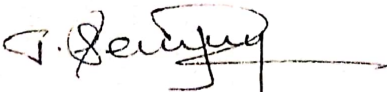

Principal


Dr. M. VIJAYAKUMAR ME., Ph.D.,
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SASURIE COLLEGE OF ENGINEERING.
Vijayamangalam - 638 056, Tirupur (Dt).




DEPARTMENT OF MECHANICAL ENGINEERING
Certificate of Participation

This is to Certify that **Mr.Rokesh.P, III/ECE** has successfully completed the **Value Added Course** titled “**Face Recognition System Using Machine Learning**” Organized by the **Department of Mechanical Engineering** in association with **IQAC** of **Sasurie College of Engineering** and **Caliber Embedded Technologies** from **28.08.2023 to 02.09.2023 (6 days)**.


Co-ordinator


Head of the Department

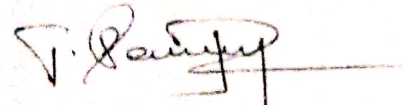

Principal

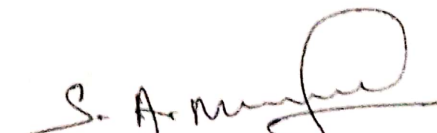

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DEPARTMENT OF MECHANICAL ENGINEERING
Certificate of Participation

This is to Certify that Mr. **PREMKUMAR Y, IV / MECH** has successfully completed the Value Added Course titled "Face Recognition System Using Machine Learning" Organized by the Department of Mechanical Engineering in association with IQAC of Sasurie College of Engineering and Caliber Embedded Technologies from 28.08.2023 to 02.09.2023 (6 days).


Co-ordinator


Head of the Department


Principal


Dr.M.VIJAYAKUMAR ME., Ph.D.,
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Vijayamangalam - 638 056, Tirupur (Dt).

DEPARTMENT OF MECHANICAL ENGINEERING
TEST QUESTION PAPER-VALUE ADDED COURSE
“Face Recognition System Using
Machine Learning”

From 28.08.2023 to 02.09.2023(6days)

Duration:36 Hours

Academic Year : 2023 -2024 /ODD

Date of Test :02.09.2023

MULTIPLE CHOICE QUESTIONS(25X1=25 Marks)

Name of the Student:

Year/Sem:

AU Register Number:

Answer all the questions:

1. What is the primary goal of a face recognition system?

- A) To detect faces in images
- B) To recognize or verify a person's identity based on facial features
- C) To identify the age and gender of individuals
- D) To convert facial features into text

2. Which of the following is the most common machine learning technique used in face recognition systems?

- A) Clustering
- B) Deep Learning
- C) Reinforcement Learning
- D) Evolutionary Algorithms

3. Which of the following techniques is used to detect faces in an image?

- A) K-means clustering
- B) Haar cascades
- C) Convolutional Neural Networks (CNNs)
- D) Random Forest

4. Which of the following is a widely used method for feature extraction in face recognition?

- A) K-means clustering
- B) Principal Component Analysis (PCA)
- C) Naive Bayes
- D) Random Forest


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5. What does PCA (Principal Component Analysis) help achieve in face recognition?

- A) Reduces the number of faces to match
- B) Reduces the dimensionality of the facial data
- C) Converts facial data into text
- D) Tracks the face in a video

6. Which of the following is commonly used for facial landmark detection?

- A) Haar Cascades
- B) HOG (Histogram of Oriented Gradients)
- C) OpenCV
- D) MTCNN (Multi-task Cascaded Convolutional Networks)

7. What is a Siamese Network used for in face recognition?

- A) Object detection
- B) Verifying whether two images are of the same person
- C) Classifying different facial expressions
- D) Detecting objects in images

8. Which of the following neural network architectures is widely used for face recognition?

- A) Convolutional Neural Networks (CNNs)
- B) Recurrent Neural Networks (RNNs)
- C) Generative Adversarial Networks (GANs)
- D) Fully Connected Neural Networks (FCNNs)

9. What is a "face embedding" in the context of face recognition?

- A) A vector representation of a person's face used for comparison
- B) A 3D model of the face
- C) A sequence of facial landmarks
- D) A compressed image of the face

10. Which of the following is a popular deep learning model used for generating face embeddings?

- A) VGG-Face
- B) AlexNet
- C) ResNet
- D) GAN

11. In face recognition, what does "verification" mean?

- A) Identifying a person from a large database
- B) Verifying if two images are of the same person
- C) Matching a face to a database of celebrity faces
- D) Detecting the presence of a face in an image

12. Which of the following is a commonly used loss function in face recognition?
- A) Cross-entropy loss
 - B) Hinge loss
 - C) Triplet loss
 - D) Mean squared error
13. Which algorithm is widely used for face identification in a large database?
- A) K-nearest neighbors (KNN)
 - B) Naive Bayes
 - C) Support Vector Machine (SVM)
 - D) Decision Tree
14. What is the main advantage of deep learning over traditional machine learning methods in face recognition?
- A) Requires less data
 - B) Automatically extracts relevant features from raw data
 - C) Easier to implement
 - D) Faster to train
15. Which of the following is a challenge in face recognition systems?
- A) High accuracy with deep learning
 - B) Recognition in poor lighting conditions
 - C) Fast computation
 - D) Minimal facial data required
16. What does a "face recognition database" typically store?
- A) Only face images
 - B) Face embeddings
 - C) Facial landmarks
 - D) Facial expressions
17. Which of the following techniques is used to prevent overfitting in face recognition models?
- A) Cross-validation
 - B) Normalization
 - C) Feature scaling
 - D) Data augmentation
18. Which of the following is a commonly used evaluation metric for face recognition systems?
- A) Mean Squared Error (MSE)
 - B) ROC curve
 - C) Confusion matrix
 - D) Precision, recall, F1-score



19. In face recognition, what does "training" a model involve?
- A) Detecting faces in images
 - B) Building a database of known faces
 - C) Teaching the model to identify and classify faces based on labeled data
 - D) Generating synthetic face images
20. Which face recognition technology is most effective for real-time applications?
- A) Haar Cascades
 - B) Eigenfaces
 - C) Deep Learning with CNNs
 - D) K-means clustering
21. What is "FaceNet"?
- A) A deep learning model for face detection
 - B) A dataset for facial recognition
 - C) K-Nearest Neighbors (K-NN)
 - D) Convolutional Neural Networks (CNN)
22. Which of the following methods is typically used for dimensionality reduction in face recognition?
- A) Linear Regression
 - B) PCA (Principal Component Analysis)
 - C) K-Means Clustering
 - D) Decision Trees
23. In face recognition, what does "face verification" determine?
- A) Whether two faces belong to the same person or not
 - B) The identity of a person from a database of faces
 - C) The emotions expressed by a person's face
 - D) The gender or age of a person
24. Which of the following is a challenge in training face recognition systems?
- A) High computational cost of training deep learning models
 - B) Lack of sufficient labeled data for training
 - C) Variations in pose, lighting, and expression
 - D) All of the above
25. What is "data augmentation" in face recognition?
- A) Adding noise to the training data
 - B) Generating additional data by applying transformations such as rotation, scaling, and flipping
 - C) Reducing the size of the training dataset
 - D) Using a larger number of layers in the neural network



DEPARTMENT OF MECHANICAL ENGINEERING

TEST QUESTION ANSWER KEY- VALUE ADDED COURSE

• “Face Recognition System Using Machine
Learning”

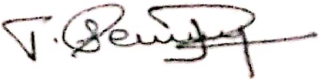
From 28.08.2023 to 02.09.2023(6days)

Duration: 36 Hours

Academic Year : 2023 -2024 /ODD

Date of Test : 02.09.2023

1	B	6	D	11	B	16	B	21	A
2	B	7	B	12	C	17	D	22	B
3	B	8	A	13	A	18	D	23	A
4	B	9	A	14	B	19	C	24	D
5	B	10	A	15	B	20	C	25	B



VAC Coordinator


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DEPARTMENT OF MECHANICAL ENGINEERING

TEST QUESTION PAPER-VALUE ADDED COURSE

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MULTIPLE CHOICE QUESTIONS(25X1=25 Marks)

Name of the Student:

Year/Sem:

AU Register Number:

Answer all the questions:

1. What is the primary goal of a face recognition system?

- A) To detect faces in images
- B) To recognize or verify a person's identity based on facial features
- C) To identify the age and gender of individuals
- D) To convert facial features into text

2. Which of the following is the most common machine learning technique used in face recognition systems?

- A) Clustering
- B) Deep Learning
- C) Reinforcement Learning
- D) Evolutionary Algorithms

3. Which of the following techniques is used to detect faces in an image?

- A) K-means clustering
- B) Haar cascades
- C) Convolutional Neural Networks (CNNs)
- D) Random Forest

4. Which of the following is a widely used method for feature extraction in face recognition?

- A) K-means clustering
- B) Principal Component Analysis (PCA)
- C) Naive Bayes
- D) Random Forest

5. What does PCA (Principal Component Analysis) help achieve in face recognition?

- A) Reduces the number of faces to match
- B) Reduces the dimensionality of the facial data
- C) Converts facial data into text
- D) Tracks the face in a video

6. Which of the following is commonly used for facial landmark detection?

- A) Haar Cascades
- B) HOG (Histogram of Oriented Gradients)
- C) OpenCV
- D) MTCNN (Multi-task Cascaded Convolutional Networks)

7. What is a Siamese Network used for in face recognition?

- A) Object detection
- B) Verifying whether two images are of the same person
- C) Classifying different facial expressions
- D) Detecting objects in images

8. Which of the following neural network architectures is widely used for face recognition?

- A) Convolutional Neural Networks (CNNs)
- B) Recurrent Neural Networks (RNNs)
- C) Generative Adversarial Networks (GANs)
- D) Fully Connected Neural Networks (FCNNs)

9. What is a "face embedding" in the context of face recognition?

- A) A vector representation of a person's face used for comparison
- B) A 3D model of the face
- C) A sequence of facial landmarks
- D) A compressed image of the face

10. Which of the following is a popular deep learning model used for generating face embeddings?

- A) VGG-Face
- B) AlexNet
- C) ResNet
- D) GAN

11. In face recognition, what does "verification" mean?

- A) Identifying a person from a large database
- B) Verifying if two images are of the same person
- C) Matching a face to a database of celebrity faces
- D) Detecting the presence of a face in an image

12. Which of the following is a commonly used loss function in face recognition?

- A) Cross-entropy loss
- B) Hinge loss
- C) Triplet loss ✓
- D) Mean squared error

13. Which algorithm is widely used for face identification in a large database?

- A) K-nearest neighbors (KNN)
- B) Naive Bayes
- C) Support Vector Machine (SVM) ✓
- D) Decision Tree

14. What is the main advantage of deep learning over traditional machine learning methods in face recognition?

- A) Requires less data
- B) Automatically extracts relevant features from raw data ✓
- C) Easier to implement
- D) Faster to train

15. Which of the following is a challenge in face recognition systems?

- A) High accuracy with deep learning
- B) Recognition in poor lighting conditions
- C) Fast computation α
- D) Minimal facial data required

16. What does a "face recognition database" typically store?

- A) Only face images
- B) Face embeddings ✓
- C) Facial landmarks
- D) Facial expressions

17. Which of the following techniques is used to prevent overfitting in face recognition models?

- A) Cross-validation
- B) Normalization
- C) Feature scaling
- D) Data augmentation ✓

18. Which of the following is a commonly used evaluation metric for face recognition systems?

- A) Mean Squared Error (MSE)
- B) ROC curve ✓
- C) Confusion matrix
- D) Precision, recall, F1-score

19. In face recognition, what does "training" a model involve?

- A) Detecting faces in images
- B) Building a database of known faces
- C) Teaching the model to identify and classify faces based on labeled data ✓
- D) Generating synthetic face images

20. Which face recognition technology is most effective for real-time applications?

- A) Haar Cascades
- B) Eigenfaces
- C) Deep Learning with CNNs ✓
- D) K-means clustering

21. What is "FaceNet"?

- A) A deep learning model for face detection ✓
- B) A dataset for facial recognition
- C) K-Nearest Neighbors (K-NN)
- D) Convolutional Neural Networks (CNN)

22. Which of the following methods is typically used for dimensionality reduction in face recognition?

- A) Linear Regression
- B) PCA (Principal Component Analysis) ✓
- C) K-Means Clustering
- D) Decision Trees

23. In face recognition, what does "face verification" determine?

- A) Whether two faces belong to the same person or not
- B) The identity of a person from a database of faces ✓
- C) The emotions expressed by a person's face
- D) The gender or age of a person

24. Which of the following is a challenge in training face recognition systems?

- A) High computational cost of training deep learning models ✓
- B) Lack of sufficient labeled data for training
- C) Variations in pose, lighting, and expression
- D) All of the above

25. What is "data augmentation" in face recognition?

- A) Adding noise to the training data
- B) Generating additional data by applying transformations such as rotation, scaling, and flipping ✓
- C) Reducing the size of the training dataset
- D) Using a larger number of layers in the neural network

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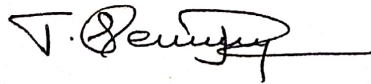
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S.No	Reg No.	Name of the Student	Year/ Branch	AttendanceDetails		VAC-MCQTEST		OVERALL Score (100) (50% of A +50% of B)
				No. of Hours Attended	Attendance Score (100)(A)	No. of Correct Answers	MCQ Score(100) (B)	
1.	732422106001	Avinash S	II ECE	36	100	18	72	86
2.	732422106002	Boopathi S	II ECE	33	90	19	76	83
3.	732422106003	Gireesh Krishnan V	II ECE	30	80	18	72	76
4.	732422106004	Gunavarshini S	II ECE	33	90	19	76	83
5.	732422106005	Harish K	II ECE	30	80	20	80	80
6.	732422106006	Janagan M.P	II ECE	30	80	20	80	80
7.	732422106007	Kavipriya S	II ECE	33	90	19	76	83
8.	732422106008	Mayilsamy K	II ECE	33	90	19	76	83
9.	732422106009	Navin P	II ECE	36	100	19	76	88
10.	732422106010	Rakesh Kumar Mandal	II ECE	33	90	19	76	83
11.	732422106011	Rohini K	II ECE	30	80	21	84	82
12.	732422106012	Sevanthipriya S	II ECE	30	100	18	72	86
13.	732422106013	Sundar P	II ECE	33	90	19	76	83

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14.	732422106015	Vigneshkannan G	II ECE	33	90	19	76	83
15.	732422106016	Vishwa S	II ECE	33	90	19	76	83
16.	732421106001	Gokul.S	III ECE	36	100	19	76	88
17.	732421106002	Rokesh.P	III ECE	30	80	18	72	76
18.	732421106003	Sabari Jothi.S	III ECE	36	100	21	84	92
19.	732422105001	Emee.M	II EEE	33	90	19	76	83
20.	732422114001	Manikkavel V	II MECH	36	100	19	76	88
21.	732420114302	Premkumar Y	IV MECH	36	100	18	72	86
22.	732422103001	Dharanidharan K	II CIVIL	36	100	21	84	92
23.	732422103002	Vishwa T	II CIVIL	33	90	21	84	87



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