AI-FEST

INNOVATIVE IMAGE PROCCESING WITH MACHINE LEARNING

Presented to you by: Hafsa, Hania, Sarmad and Mustafa

OBJECTIVE

- Identify individuals from static images.
- Utilize machine learning for robust recognition.
- Securing sensitive areas and verifying identities.

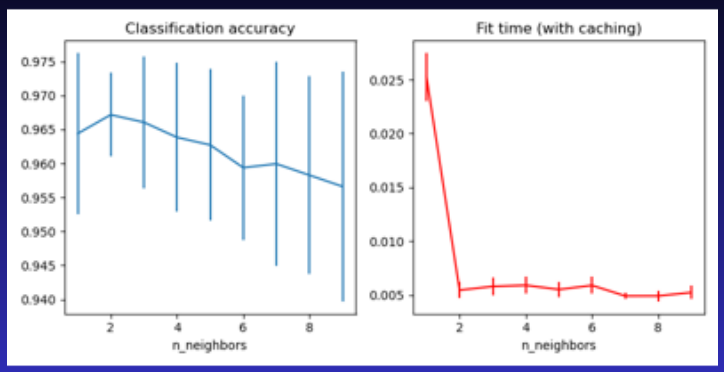
METHODOLOGY

- Techniques: Support Vector Machines (SVM), Logistic Regression, Random Forest.
- Data Preprocessing: Face and eye detection using OpenCV.
- Tools: Python, OpenCV, Flask, HTML, CSS, JavaScript, jQuery.

MODEL

- Support Vector Machine (SVM):
$$f(x) = \text{sign}\left(\sum_{i=1}^{N} \alpha_i y_i K(x_i, x) + b\right)$$
- Logistic Regression:
$$P(y = 1 \mid x) = \frac{1}{1+e^{-(w^T x + b)}}$$
- Random Forest (ensemble prediction):
$$\hat{y}(x) = \frac{1}{N} \sum_{j=1}^{N} T_j(x)$$

TRAINING DEATILS



GridSearchCV

DATE: June 28 2024

SUBJECT: Machine Learning

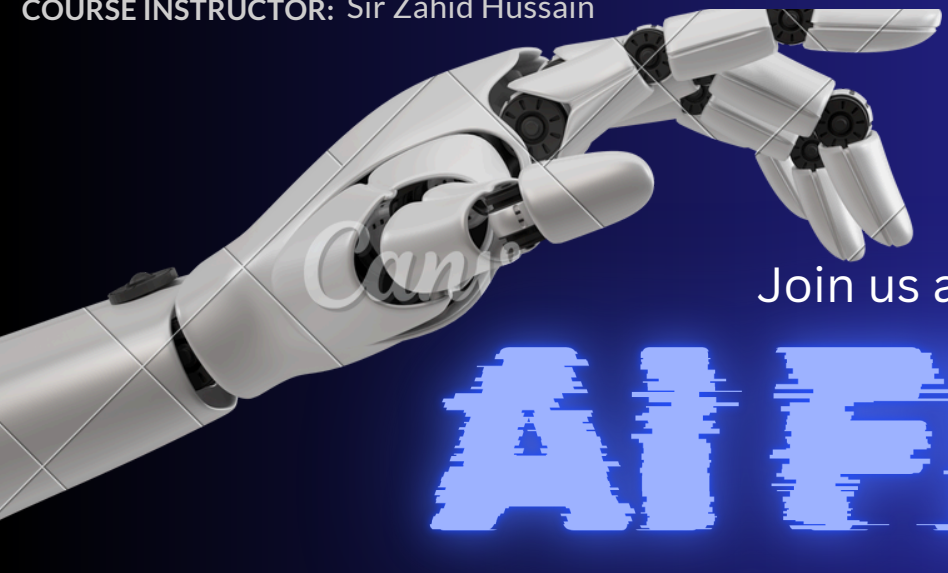
INDUSTRY EXPERT: Mr. Usman Ali

COURSE INSTRUCTOR: Sir Zahid Hussain

matplotlib

OpenCV

scikit learn



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