Abstract

Face Recognition is one of the most widely researched and challenging fields in computer vision and machine learning. Dynamism of human face poses several challenges in developing a machine learning algorithm or a deep learning model for face recognition across different environments. This mix of human face dynamism and altering environmental factors leads to inaccurate face recognition.

The goal of this paper is to propose a face recognition model, below are the multiple actions taken to finalize the model.

Framework Selection: Open Face framework and linear SVM classifier to recognize a person’s face after comparing with other models or frameworks available with the help of live experimentation on human faces

Live Face Recognition activity: Two rounds of Crowd testing has been conducted at Persistent
Systems Pune & Nagpur offices.

Crowd Test 1 (CT1): 223 (86 and 137 in two batches) candidates, 40 images each. Systems were trained daily with new images collected in the process.

Crowd Test 2 (CT2): 81 candidates, 80 images each. System has been trained only for last day of testing. Total daily score was higher than CT1, as the system was trained with double the number of images.

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Index Terms

Computer Science Information Sciences

Keywords

Open Face framework, linear SVM classifier, face recognition model, OpenCV, detect eye-blinks, eye aspect ratio, Neural Networks, CNN