Glossary

Short explanation for terms that are found within visage|SDK documentation and in face tracking in general.

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  - Face detection
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General terminology

Action units

Fundamental actions of individual muscles or groups of muscles, estimated and returned by the visage|SDK (e.g. lower lip drop, right outer brow raise). Often applied to a 3D object's *Morph targets.*

Age estimation / Age classification

Estimation of a person's age in a frame or a continuous stream of frames.

Emotion estimation / Emotion detection

Estimation of intensities of human emotions from a predefined set in a frame or a continuous stream of frames.

Eye tracking

Localization of pupil positions in a continuous stream of frames

Face detection

Detection of face bounding boxes in a frame

Face filter / AR face filter / Facial mask

A mask-like augmented reality that adds virtual objects to an individual's face

Face identification / Registered Face Recognition

Process of determining person's identify by checking its face descriptor against a database of labeled face descriptors

Facial occlusion

An obstructed view of the face where only parts of the face are visible. Obstructions include hands, glasses, mask, beard, etc.

Face recognition

Extracting and matching face descriptors from a frame.

Face template / Face descriptor

Unique identifier of the human face, usually represented as an array of values.

Face tracking

Tracking/localization of feature points in a continuous stream of frames.

Face verification / Registered Face Recognition

Process of verifying whether two face descriptors match, i.e. belong to the same person.

Facial landmarks / Feature points

Salient points on the human face.

Gender estimation / Gender classification

Binary estimation of a person's gender in a frame or a continuous stream of frames.

Head tracking

Estimation of head pose in a continuous stream of frames.

Morph target / Blend shapes / Shape keys

A variation of the base mesh. *Morph targets* are typically used for facial animation. The base mesh defines the neutral expression and the *morph targets* define expression such as "smile", "frown", "eyes closed".

Morph target animation

Animating a 3D object using *morph targets*. When applied to a human face, for example, the head is first modeled with a neutral expression. A "*target* deformation" is then created for each other expression.

Multiple-face detection

Detection of more than one face bounding boxes in a single frame.

Multiple-face tracking

Tracking/localization of feature points of multiple faces in a continuous stream of frames.

Automotive-related terminology

Driver monitoring system / DMS

A camera-based system pointed at the driver’s face which provides a real-time evaluation of the presence and the state of the driver.

Occupant monitoring

Monitoring of all passengers in the vehicle to better understand their state and condition.

Driver drowsiness monitoring

Monitoring the level of drowsiness in the driver (by monitoring eye closure, blinking, yawning, etc.)

Driver identification

Verifying the driver's identity, e.g. by using face recognition, usually in order to provide access to specific car functions.

Driver assistance

The function of the car that allows it to take control of a least one significant car function from the driver when necessary.