



Face Recognition and Face Masks

With more widespread global use of face masks as a disease prevention measure, it's critical for facial recognition algorithms to be able to detect and recognize faces partially occluded by face masks or other objects. SAFR® features robust occlusion detection, which allows for a variety of programmable alerts based on detection of face masks, and we're working to improve our already high recognition accuracy rates for occluded faces.

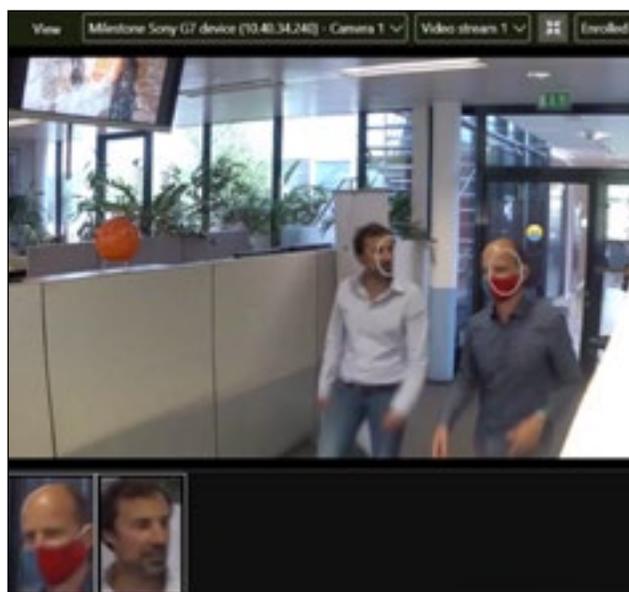
Occlusion Detection

Trained for high-accuracy face detection and recognition under many types of facial occlusions, SAFR can detect if a person is wearing a face mask – and if they are not.

Accurate occlusion detection allows programming of any number of occlusion-based alerts. This automation can aid in ensuring compliance with efforts to prevent the spread of disease – without needing to devote extra human-hours to monitoring or station security personnel at each entrance.

- Detect when somebody enters an area without a face mask.
- Detect when somebody enters an area with a face mask.
- Track crowd analytics including the percentage of masked vs. unmasked faces.
- Record timestamps and metadata for occurrences of noncompliance with face mask requirements.
- Detect if somebody removes their face mask in an area where they shouldn't.

SAFR's flexible deployment options allow it to be used as a standalone system, integrated with most leading VMSs, or embedded directly on camera-equipped devices using SAFR SDKs.



Face Recognition with Masks

When any portion of a face is not visible, a facial recognition algorithm must focus on whatever face landmarks it can see in order to determine an accurate match. This requires recognition training and tuning specifically for occluded faces. The SAFR facial recognition algorithm was trained on wild images – real-world images of faces in movement, including occluded faces – and maintains high accuracy rates even when faces appear masked.

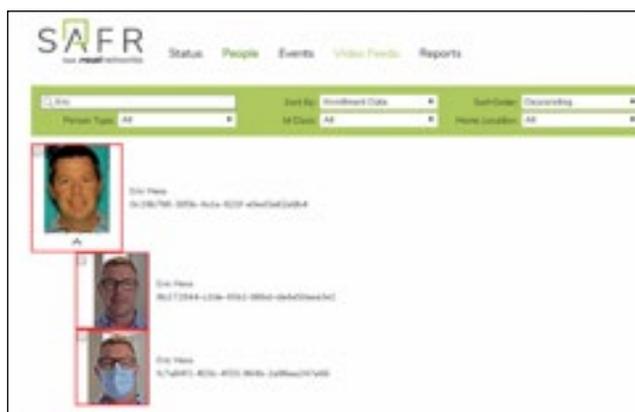
The highest accuracy rates for masked faces can be achieved by uploading a masked reference image to the SAFR system using the grouping feature in the person directory. In these cases, the true positive identification rate is 93.5% with less than 1:3,760 false identifications.

When deployed commercially, accurate recognition under occluded conditions is valuable and in some cases life-saving:

- Healthcare workers can move through secured areas without removing personal protective equipment.
- Essential service providers can continue to deliver products and services without delay.
- Security threats will not go unrecognized, and responses will not be delayed.

Face masks don't negate the benefits of facial recognition AI. Improved situational awareness and security, contactless access control, and a better understanding of people's movements through public and retail spaces are critical, now more than ever.

Facial recognition systems are force multipliers. They provide a centralized knowledge bank resilient to changes or gaps in staffing, can be operated with minimal staff and from a distance, and can be programmed for automated responses to a variety of security events.



For more information or to set up a free trial: [Visit SAFR.com/Request-a-Demo](https://www.realnetworks.com/request-a-demo)

Or contact a SAFR sales representative at: bizdev@realnetworks.com