

**Sales contact: CVIC**

**Engineering & Consultancy**

**for**

**Computer Vision & Image Communication**

**Dr. Carlsohn**

Am Heiddamm 36g  
28355 Bremen,  
Germany

+49 (0)421 2052055 (phone) / +49 (0)421 2052056 (fax)

**E-Mail Contact:** [Matthias.Carlsohn@t-online.de](mailto:Matthias.Carlsohn@t-online.de)

## Portrait Detection

### General

The portrait detection module analyzes video information for spatio-temporal regions that show a human face looking into the direction of the camera. The detection is to some extent robust against rotation, i.e., changes of the person's viewing angle.

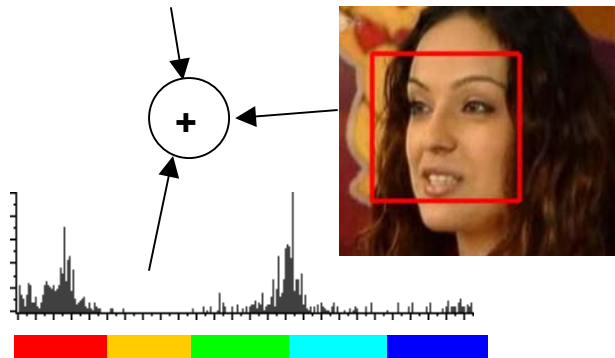


Example variations in face angle

### Face detection for video retrieval.

Faces are not just another low-level feature of video information but a high-level modality that can be combined with other modalities, such as visual similarity and/or text to improve quality of retrieval results, considerably.

I've learned everything there, writing, reading ...  
I've spent my entire youth there!



Combination with other modalities increases overall retrieval performance

### Face detection as a step forward to person recognition

The general detection of human faces is an important step towards recognition and identification of individual persons in video. Detected face regions provide "seed areas" for the extraction of face features, e.g., a subsequent clustering of faces, or a subsequent comparison with individuals. Clustering of faces can generate a list of persons occurring in a video, providing valuable information for video indexing and retrieval. Comparison with a database of known individuals is the next logical step to add further semantics to the video's metadata.

### Near real-time performance

If detection of exceptional small faces is not of crucial importance, real-time performance can always be achieved by reducing the resolution of the face detector accordingly. The number of detected faces is not limited. Multiple faces present at the same time do not increase the time complexity of the algorithm.



Multiple faces detected in a video frame

### Integration into existing systems

The Face Detection module can easily be integrated into existing digital media asset management systems.