

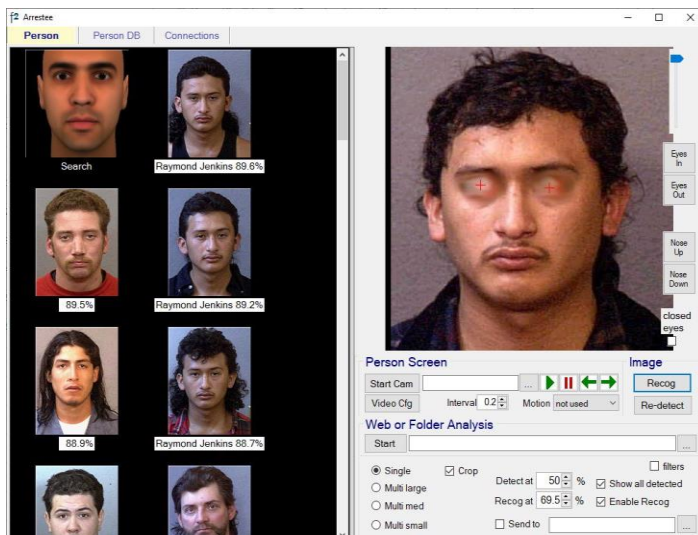


Face Forensics Corpse-ID

Identification of Dead Bodies

Face Forensics' f2 Image Recognition Suite is highly advanced AI-based face recognition technology which provides full face recognition, partial face recognition, tattoo recognition, and scene matching.

Corpse-ID is a module within the suite designed to identify dead bodies, i.e. where the eyes are closed. It can work even if the face is significantly damaged.



Matching a Face with Both Eyes Visible and Closed
Results against 5000 face database

Closed eyes are an issue because all face recognition systems place much value on the area around the eyes due to the clear edges and high contrast of the features there. If both eyeballs are not visible the recognition performance of almost all systems can be severely degraded or not work at all, as the eyeballs are the key anchor points around which the characteristics of numerous facial features are measured.

However the original design of f2 included the unique ability to match a selected part of a face, and to apply different weightings to different areas,

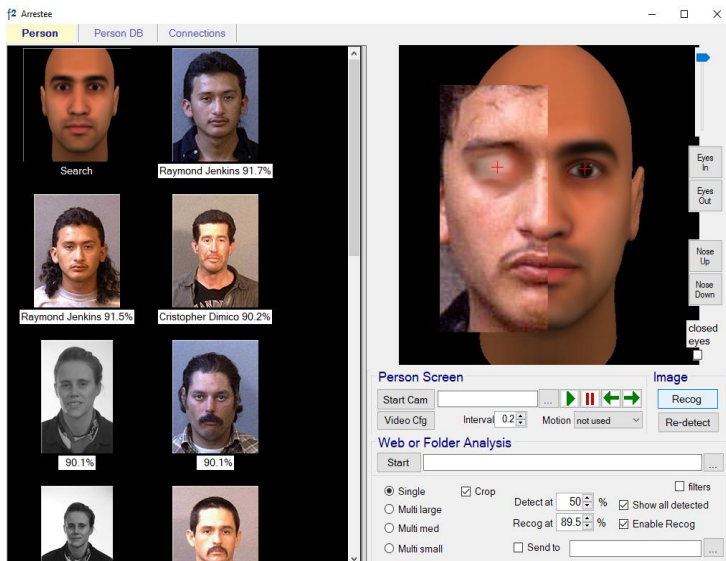
making it possible to match only the selected part, and thus work with closed eyes and damaged faces. In partial mode Corpse-ID can work with two eyes (e.g. mailbox or balaclava view), one eye, and sometimes with no eyes at all.

In the above example the closed-eye face to be searched is copied into the box on the right and the top matches are displayed as thumbnail images on the left.

As with all biometrics, face recognition systems require a database of images to match against. In the case of corpses this database will generally be specially created following a particular disaster such as a boat sinking, tsunami, earthquake, etc, with pictures provided by concerned family members and friends. Multiple photos of an individual can be held in the database.

When a victim is found an investigator will take several photos of their face. If the eyes are both visible and open the face can be matched immediately against the database. If the eyes are closed or the face is damaged it will be positioned over a generic facial template and the eye locations will be set manually.

Each of the shots will be encoded and matched against the encodings of all the faces in the database. Thumbnail images of matches above a user-defined threshold will be displayed for investigators to compare. Text filters, e.g. on gender, can be used to narrow down the number of potential matches where appropriate, for example where a face is heavily damaged and a number of distinguishing features are not visible.



Corpse-ID includes a magnification capability which enable a potentially matching face to be displayed and enlarged side-by-side with the victim's image to enable a detailed examination. All such matches can be saved for subsequent investigation.

It comes with its own SQL Server Express database and will also connect to external SQL Server, Oracle, and DB2 databases. It accesses these in read-only mode.

Partial face overlaid on the template – only one closed eye is visible. Results against 5000 face database

The Face Forensics team has over 20 years' experience in developing face recognition technology and implementing major systems across North America and around the world.

System Requirements

Corpse-ID is available as a stand-alone/networked application and as a .Net SDK. It runs under Windows 10 (in 64-bits). Corpse-ID is straightforward to install and test. It can be downloaded for evaluation for 30 days at no charge