

f² Advanced Face Recognition

Face Forensics Inc.

Face Forensics' f2 is a highly advanced face recognition system which provides both one-to-many and one-to-one matching, as a complete application, an SDK, or as a web service. It will:

- Search a database to identify an unknown face
- Check an entire database, or multiple databases, for multiple records of the same person using different names
- Detect and recognize faces in a video stream in a controlled environment
- Verify that an individual is who they claim to be
- Identify an individual from part of their face in a forensics or investigations environment

f2 is the result of many years' experience in the forefront of face recognition development. Key features are:

- Connects easily to images in existing industry-standard databases including SQL Server, Oracle, and DB2
- Once f2 is linked to the images in an existing database it detects more than 3000 characteristics of each face. These are used to generate a unique numeric string



Example of One-to-Many Search Results

- Any new face can then be encoded and its own string generated and matched against the stored strings. The return is a list of images above a user-defined threshold, in order of match probability
- Being string-based, matching is extremely fast – it can be configured to compare well in excess of one million faces/second. f2 can be easily networked, allowing users to connect to many different databases under appropriate controls
- f2 runs under Windows 10 in 64 bits, enabling it to work with databases incorporating tens or hundreds of millions of records. Text filters, e.g. on gender, can be used to substantially narrow down the number of potential matches
- f2 accesses existing images in read-only mode so data integrity is assured. It will automatically detect and enroll new faces added to an external database without any notification from the host application.

Applications

Confirmation of an Individual's Claimed Identity

When an individual presents an identity document such as an access card, passport, or driver's license, f2 will confirm that their face matches that on the document chip or server. One-to-one matching is generally an integral part of an application, so the SDK version is generally used.

Identification of Individuals

f2 can take an image of any unknown individual, encode it and match it against a database or watchlist locally or on a remote server. One-to-many matching returns a gallery of likely matches in order of matching probability, so that an officer can make the final decision on whether any image is of a particular individual or not.

Detection of Multiple Records for the Same Person Under Different Names

Many-to-many matching compares every facial image in a database against every other one to detect cases where an individual has multiple records under different names.

Video Screening

f2 can screen real-time or pre-recorded video. Faces in a controlled environment, i.e. forward-facing, good lighting, and reasonable resolution, are detected and matched against appropriate databases (e.g. offenders, missing persons, etc), with potential matches displayed for the officer or investigator to follow up. f2 can also search websites.

Partial Face Recognition

f2 can work with part of a face and match this against the same facial region for all faces in a database. By returning matches above a predefined threshold, investigators can focus their attention on a small subset of the database. This capability is unique to Face Forensics.

Tattoo Recognition

The face recognition module is a part of the f2 Image Recognition Suite, which includes our tattoo recognition module. This capability is also unique to Face Forensics.

The Face Forensics team has over 15 years' experience in developing recognition technology and implementing major systems across North America and internationally.

System Requirements

f2 is available as a stand-alone/networked application, as a .Net SDK, and as a web service. It runs under Windows 10 in 64-bits. It will access Oracle, SQL Server, and DB2 databases. The user interface can be switched to any language.

f2 is downloadable from www.faceforensics.com for evaluation for 30 days at no charge.