

Biometrics 101

What you need to know to understand biometrics

This introduction is for the purpose of providing a very simple understanding of what a biometric is.

There are physical biometrics and behavioral biometrics. An easy way to distinguish between the two types of biometrics is to think about your physical body versus the actions of your body. Your digital facial image, your fingerprint, your iris are each physical parts of your body, and are physical biometrics. The way that you sign your name, or the pattern of the way you walk, referred to as your gait, are examples of behavioral biometrics.

There are two types of matches. A one to one match, or a one – to - many match. An example of a one to one search would be providing your fingerprints, digital facial image, DNA, or iris scan to law enforcement or some other entity, and then comparing what is collected against what was previously collected that is in a database under your name. An example of a one – to – many application is when law enforcement captures/collects a fingerprint at a crime scene, and then compares the fingerprint from the crime scene against a number of fingerprints in various databases, looking for a match that is linked/associated to a person's name.

Biometrics in and of themselves do not establish a person's identity. It is only when a biometric of a person is directly associated or linked to a primary form of identification, such as a birth certificate, that the biometric does establish identity. Birth certificates and other acceptable primary and secondary forms of identification are called breeder documents.

Verifying the authenticity of breeder documents and making sure they belong to the person who is using the breeder document to obtain identification documents such as a driver's license is critical to assisting in preventing acts of terrorism, espionage, identity theft and other crimes such as welfare fraud.

Facial recognition technology is the most controversial of the different biometrics. Facial recognition technology is also referred to as FRT or FR. Facial recognition is facial mapping. The mapping is of the distances between key characteristics of the face such as the nose, ears, lips, and so forth. Fingerprinting measures the distances between ridges and other patterns on the fingertip. Facial recognition technology, fingerprinting, iris scans, palm vein geometry and so on, are predicated on measurements of the body.

Many civil liberties advocates consider Remote Biometric Identification (RBI) to be one of, if not the single biggest threat to our rights as stated in the First and Fourth Amendments. Using facial recognition technology, law enforcement and others have captured and collected the facial images of protestors and others, even when there has been no crime committed. The facial images collected are then compared to other facial images in a myriad of databases to try and establish the identity of people.