



# Biometric and Forensics Research Database Catalog

Project Briefing  
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# Forensic Science Program Overview

## *MISSION*

The Office of Special Programs' Forensic Science Program (FSP) will be the premier resource for forensic science standards through research, development, testing, evaluation, outreach, and advocacy.

## *VISION*

To promote and enhance the application of science to the pursuit of justice.

# Forensic Science Program Overview

To achieve this mission:

- We provide access to research, measurement science, and standards that make the forensic science community more successful
- We form the best teams to develop solutions to complex forensic science problems
- We create opportunities for success at NIST through trusted and reliable partnerships
- We connect NIST scientists with forensic practitioners to better use the full range of competencies that make NIST a unique agency

# Forensic Science Program Overview

Project Outputs of These Activities Include:

- Standard reference materials development
- Guidance documents development
- Design of test methods, operating procedures, measurement tools, equipment guidelines, and artifact standards
- Research to develop and validate emerging technologies and science
- Technology transfer
- Providing strategic counsel, management, technical assistance, and outreach

# The Biometric and Forensic Dataset Project

NIJ has sponsored NIST to:

- Create a **comprehensive catalog** of publicly available biometric and forensic datasets for the following modalities: finger/palmprints, iris, face, person at a distance, voice, and handwriting; and
- Host a **symposium** to discuss the adequacy of existing publicly-available datasets and the future needs in these areas.

# The Biometric and Forensic Database Cataloging Effort

## Goals

- To provide a pointer to publicly available datasets for researchers
- To provide baseline data on existing publicly available datasets to determine gaps for future collections
- To use lessons learned to establish best practices in developing databases

# The Biometric and Forensic Database Catalog Effort

## *Data Collection*

Phase 1 – Collect comprehensive listing of existing databases

Phase 2 – Categorize based on taxonomy

Phase 3 – Evaluate and assess quality of datasets

# The Biometric and Forensic Database Cataloging Effort

## *Where did we look?*

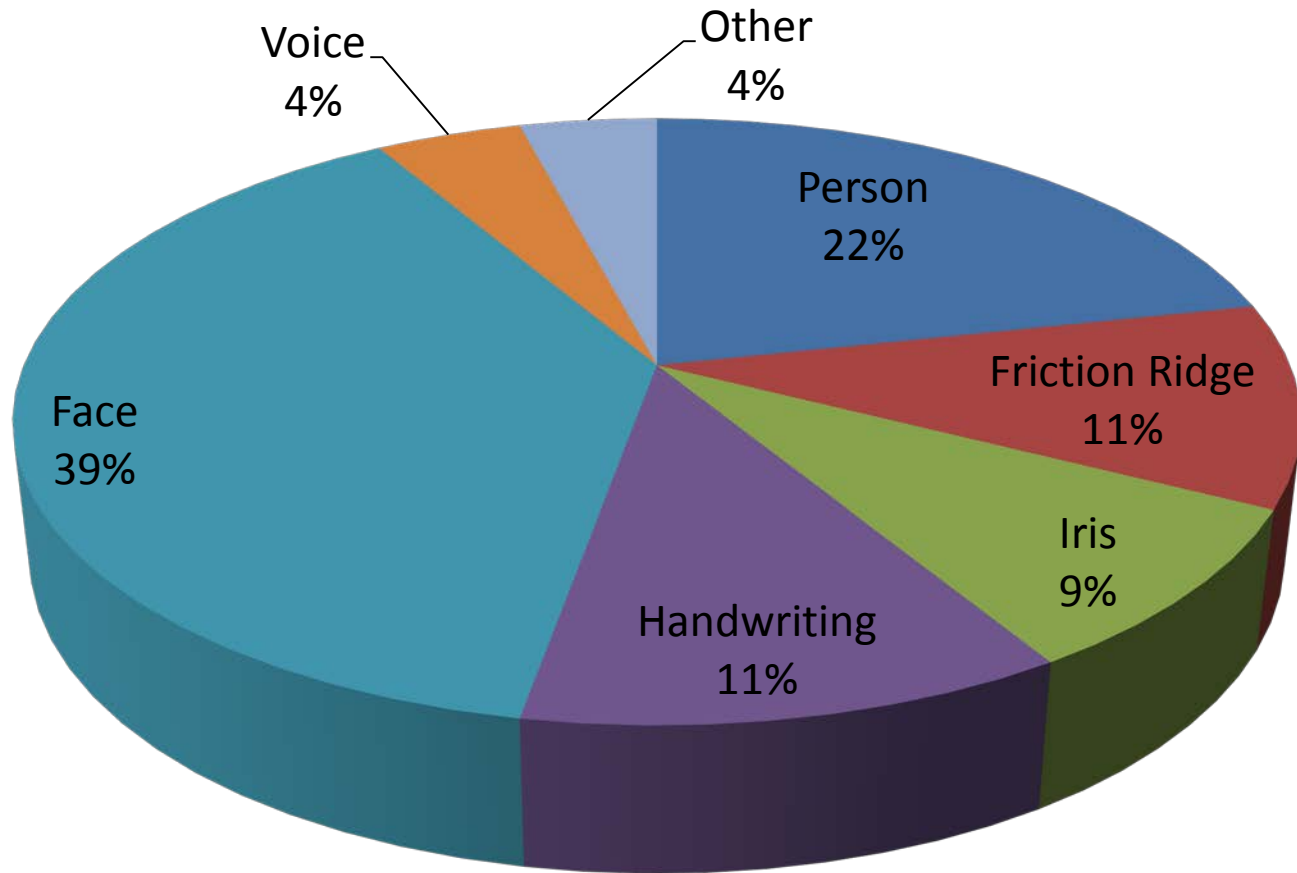
1. Web searches
2. Journal articles
3. Universities with well known programs in biometrics
  - WVU, Michigan State, Notre Dame, Carnegie Mellon, etc.

*So far we've found 362 datasets...*



# The Biometric and Forensic Database Cataloging Effort

*Datasets by Modality*



**Total: 362**

\*About 5% (18) of the databases were multi-modal



# The Biometric and Forensic Database Cataloging Effort

## Site Development

- Site created with in-house NIST Office of System Information Management (OISM) developers
- Can be used internally for data entry and externally to conduct searches
- Users are capable of conducting two types of searches: via text or via taxonomy
- 165 databases currently entered

<https://tsapps.nist.gov/BDbC/>

# Catalog Homepage

**NIST** | [NIST Time](#) | [NIST Home](#) | [About NIST](#)

## Biometric and Forensic Research Database Catalog

[Home](#) [Search](#)

The **Biometric and Forensic Research Database Catalog**, developed by NIST in collaboration with National Institute of Justice (NIJ), is a compendium of publicly available biometric datasets, and is still under development.

A symposium to discuss the results of this data collection effort and future database needs in the biometric community will take place on January 26-27, 2014 at NIST in Gaithersburg, MD. Information on the event will be available at: [http://www.nist.gov/forensics/conferences\\_and\\_events.cfm](http://www.nist.gov/forensics/conferences_and_events.cfm).

The site is currently under construction and dataset information is populated weekly. If you have any questions, feedback, or suggestions, please email us at: [BDBC@nist.gov](mailto:BDBC@nist.gov).

### Disclaimer

Within this application, NIST provides links to external web sites containing information that may be of interest to you. NIST does not endorse the views expressed or the facts presented on these external sites. Further, NIST does not endorse any commercial products or services advertised or offered on or through these sites.

### Search Options

- [Search using a taxonomy](#)
- [Search using free text](#)

### Other Resources

- [NIST Forensic Sciences](#)
- [NIST Biometrics](#)
- [NIST Biometric Standard Reference Databases \(SRDs\)](#)

Options to search via text or taxonomy

Related NIST pages

<https://tsapps.nist.gov/BDbC/>

# Biometric and Forensic Research Database Catalog

[Home](#) [Search](#)

## Search

Page size: 

The search is performed against the following fields: title, description, website, special notes, subjects description, managing or contributing organization, and taxonomy title.

Total Number of Search Results: 165

Title	Website	Organization	Modalities	
3D Mask Attack Database (3DMAD)	<a href="#">Link</a>			<a href="#">Details</a>
3D RMA Database	<a href="#">Link</a>			<a href="#">Details</a>
3D Twins Expression Challenge ("3D TEC") Dataset	<a href="#">Link</a>	University of Notre Dame		<a href="#">Details</a>
AR Face	NA			<a href="#">Details</a>
AT&T "The Database of Faces"	<a href="#">Link</a>			<a href="#">Details</a>
ATVS FakeFingerprint Database (ATVS-FFp DB)	<a href="#">Link</a>	Universidad Autonoma de Madrid		<a href="#">Details</a>
ATVS On-Line Signature Long-Term Database (ATVS-SLT DB)	<a href="#">Link</a>	Universidad Autonoma de Madrid		<a href="#">Details</a>
ATVS-DooDB	<a href="#">Link</a>	Universidad Autonoma de Madrid		<a href="#">Details</a>
ATVS-Fakelris Database (ARVS-Flr DB)	<a href="#">Link</a>	Universidad Autonoma de Madrid		<a href="#">Details</a>
ATVS-Synthetic Signature Database (ATVS-Ssig DB)	<a href="#">Link</a>	Universidad Autonoma de Madrid		<a href="#">Details</a>

Search Via Text  
Page

# Search by text or taxonomy

## SearchByTaxonomy

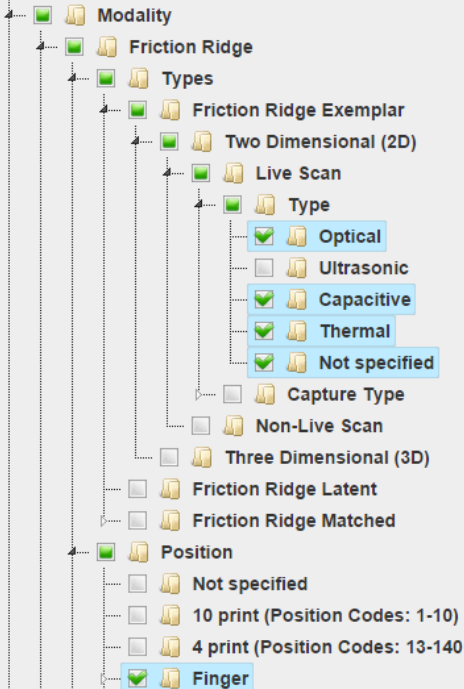
Please select the method of joining your selections.

And = Results must match all selected criteria.

Or = Results can match any selected criteria.

- And
- Or

Expand selections by clicking on the arrows.



## SearchResults

Number of Biometric Databases: 5

Title	Website	
ATVS FakeFingerprint Database (ATVS-FFp DB)	<a href="#">Link</a>	<a href="#">Details</a>
BIOSECUR-ID Multimodal Biometric Database	<a href="#">Link</a>	<a href="#">Details</a>
CASIA Multi-Spectral Palmprint Database	<a href="#">Link</a>	<a href="#">Details</a>
CASIA Palmprint Database	<a href="#">Link</a>	<a href="#">Details</a>
FVC2006 Fingerprint Database - BioSec Baseline Corpus	<a href="#">Link</a>	<a href="#">Details</a>

## Details

### Biometric Database

**Title:** ATVS FakeFingerprint Database (ATVS-FFp DB)  
**Website:** [http://atvs.ii.uam.es/ffp\\_db.html](http://atvs.ii.uam.es/ffp_db.html)  
**Managing Organization:** Universidad Autonoma de Madrid  
**Contributing Organizations:**  
**Country:** Spain  
**Description:** Two datasets containing real and fake fingerprint images specifically thought to assess the vulnerability of fingerprint-based recognition systems to direct attacks and to evaluate the performance of liveness detection methods. Fake samples were captured from gummy fingers generated both with and without the cooperation of the user. Three different sensors were used to acquire the database: flat-optical, flat-capacitive, and sweeping-thermal.  
**SubjectsDescription:** Over 4,500 real and fake fingerprint images  
**SpecialNotes:** None.  
**Status:** Active  
**Access Requirements:** Publicly available; Instructions can be found on website; License agreement can be found at: [http://atvs.ii.uam.es/licenses/ATVS-FFp\\_License.pdf](http://atvs.ii.uam.es/licenses/ATVS-FFp_License.pdf)  
**Related Publication:** J. Galbally, F. Alonso-Fernandez, J. Fierrez and J. Ortega-Garcia, "A High Performance Fingerprint Liveness Detection Method Based on Quality Related Features", Future Generation Computer Systems, Vol. 28, pp. 311-321, 2012.

### Linked Taxonomies

- Not specified
- Right Index (Position Code: 2)
- Left Index (Position Code: 7)
- Plain
- Not specified
- Cooperative
- Non-cooperative
- Spoof
- Right Middle (Position Code: 3)
- Left Middle (Position Code: 8)
- Capture Type
- Optical
- Capacitive

Details about each database record are included in catalog

# The Biometric and Forensic Database Cataloging Effort

## *Data Collection – Entry Details*

- Title
- Website
- Managing Organization
- Contributing Organization
- Country
- Description
- Subjects Description
- Special Notes
- Status
- Access Requirements
- Related Publication

# The Biometric and Forensic Database Cataloging Effort

## *Data Collection*

### Taxonomy Categories

- **212 categories**
- Major categories include: modality, data type, quality, method of associating mated subjects, capture, and misc. data characteristics

<https://tsapps.nist.gov/BDbC/Search/SearchByTaxonomy>

# The Biometric and Forensic Database Cataloging Effort

We need your help...

- Please provide your feedback to the existing catalog, how it is categorized, and whether it is useful
- All the information collected will be used in road map and best practice guide for developing future databases

[BDBC@nist.gov](mailto:BDBC@nist.gov)



# The Biometric and Forensic Database Cataloging Effort

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# Questions?

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