

- George Mason University
- Lead Investigator: Professor Harry Wechsler
- Computer Science Department -- GRAs

- Face Recognition under Uncontrolled Settings (A-PIE)
- Occlusion, Disguise, and Uncertainty: [1] Typicality and Ranking; [2] Recognition-by-Parts; [3] Boosting
- Discriminative and Non-Parametric Methods
- Open Set Authentication
- Shape, Texture, and Anthropometric Representations
- Statistical Learning: [1] Semi-Supervised Learning and Transduction; [2] Metric Learning and Similarity for Face Space / BASIS; [3] Collective Classification; [4] Multi-Task and Transfer Learning
- Re-Identification
- Interoperability

- **Designed and Developed FERET**
- **Reliable Face Recognition Methods**, 2007, Springer, ISBN: 9-780387-223728
- **R&D Funding and Consulting** ~ DARPA, ARL, DOD, DOS, DHS, Honeywell, MIT Lincoln Lab, VA, and NRL
- **IEEE Fellow and IAPR Fellow**
- **PATENTS:**
 - (1) **Fractal Image Compression Using Quad-Q-Learning**
(# 6,775,415 B1 awarded on 08/10/04) (licensed 2006);
 - (2) **Feature Based Classification** (Gabor and ICA for Face Recognition)
(# 6,826,300 B2 awarded 11/30/04);
 - (3) **Open Set Recognition Using Transduction**
(# 7,492,943 B2 awarded on 02/17/09) [includes outlier detection];
 - (4) **Recognition of Occluded and Disguised Faces Using Adaptive and Robust Correlation Filters** (# 8,073,287 awarded on December 6, 2011);
 - (5) **Data Stream Change Detector**
(# 8,877,963 awarded on December 6, 2011);
 - (6) **Face Authentication Using Recognition-by-Parts, Boosting, and Transduction**
(#8,194,938 B2 awarded on June 5, 2012);
 - (7) **Robust Face Recognition for Occlusion and Disguise Using Holistic Anthropometric and Appearance-Based Features, and Boosting** (# 8,379,940 awarded on February 19, 2013)

- Seek teaming arrangements with industrial and/or academic partner(s) to engage in large scale biometric validation under uncontrolled settings.
- Seek to join research groups interested / active in [1] layered categorization (including open set recognition); [2] representation by similarity; [3] occlusion (“denial”), disguise (“deception”), and uncertainty; and [4] novel biometric architectures and interoperability.

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