

# EEE-6561 Fundamentals of Biometric Identification

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Lecture #1 Course Overview

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# Course Information

- EEE-6561 Fundamentals of Biometric Identification
- Instructor: Damon Woodard (dwoodard@ufl.edu)
- Office: 226E Materials Engineering Bldg. (MAE)
- Lectures: MWF (1:55 PM– 2:45 PM) 201 NEB
- Office Hours: Mon. & Wed. 8:00 AM – 9:30 AM or by appointment.
- Course Materials in CANVAS
  - <http://lss.at.ufl.edu>

# Teaching Assistant

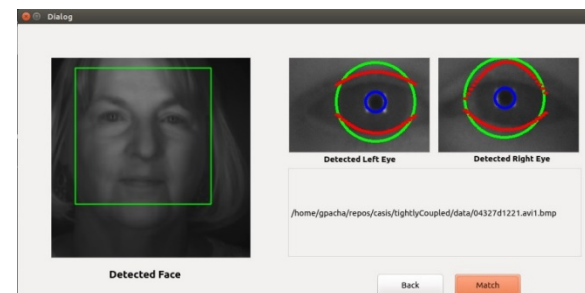
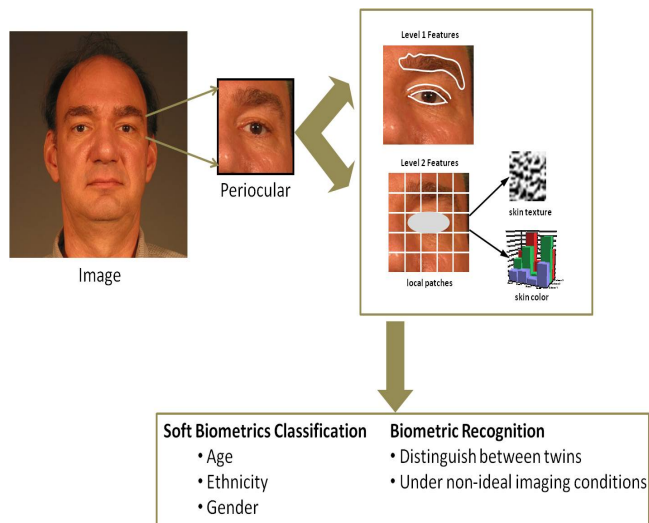
- Sumaiya Shomaji (Jyoti)
- shomaji@ufl.edu
- Office: Materials Engineering Bldg (MAE), RM 126
- Office Hours: Mon. 3:00 – 4:00 PM, Fri. 11:00 AM – 12:00 PM

# Prior Research (Subset)

Keystroke Dynamics

Periocular Biometrics

Tightly Coupled Face +  
Iris Biometrics

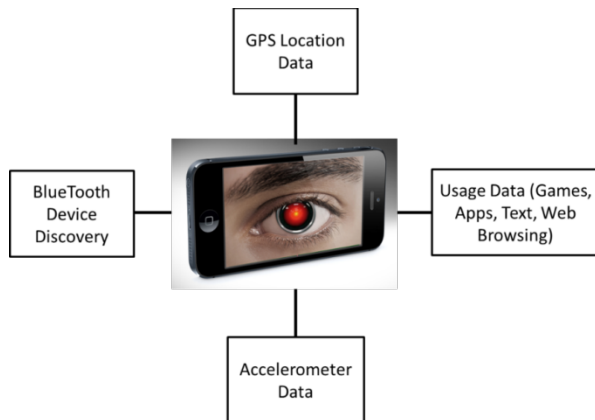
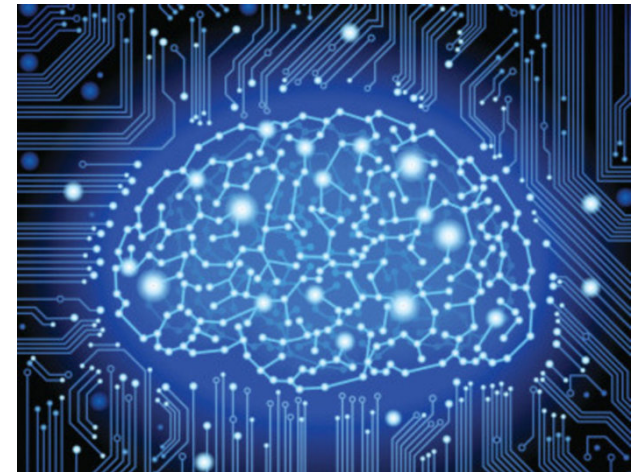


# Current Research Projects

# Mobile Device Based Biometrics

# Stylometry/Author Obfuscation

# Machine Learning for Cybersecurity Applications

[illegible]

# Course Goal / Objective

## **Goal:**

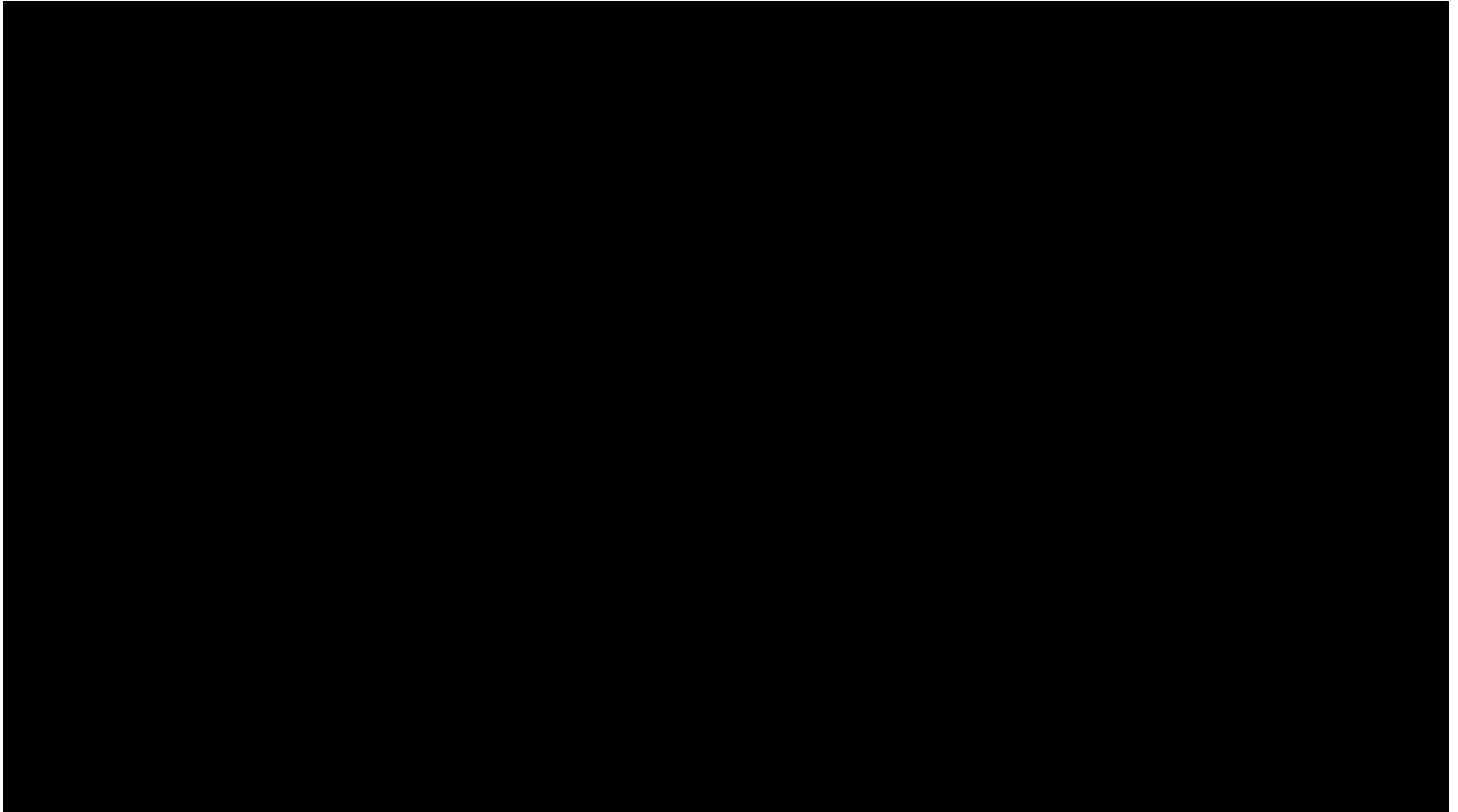
Understand the process of biometric identification and the challenges it poses as a means of establishing identity.

## **Objective:**

Provide students with the scientific foundations needed to design, implement, and evaluate biometric systems.

# Course Goals/Objective (cont.)

**Goal\*:** Separate Fact from Fiction



# Course Overview

- Prerequisites: EEE-6512 Image Processing / Computer Vision
- Programming experience required, preferable experience using the MATLAB programming environment
- Textbook: Introduction to Biometrics by A. Jain, A. Ross, and K. Nandakumar



# Course Overview (cont.)

## Evaluation of Grades

Item	Grade Percentage
Homework Sets (6)	50%
Exams (2)	25%
Final Exam	25%

Percent	Grade	Grade Points
94 - 100	A	4.00
90 – 93	A-	3.67
88 – 89	B+	3.33
82 – 87	B	3.00
80 – 81	B-	2.67
78 – 79	C+	2.33
72 – 77	C	2.00
70 – 71	C-	1.67
62 – 70	D	1.00
0 – 61	E	0.00

# What is this course all about?

- ***Bio***  
Life
- ***Metrics***  
To measure

## **Biometrics:**

The science of identifying or authenticating an individual's identity based on behavioral or physiological characteristics.

# Tentative Course Schedule

Week 1: Course Overview, Last Decade of Biometrics, Applications

Week 2: Overview of Biometric System Operation / **Homework #1 Due**

Week 3: Biometric System Evaluation

Week 4: Face Detection / **Homework #2 Due**

Week 5: Face Recognition /

Week 6: Fingerprint Recognition Pt. I / **Exam #1**

Week 7: Fingerprint Recognition Pt. II / **Homework #3 Due**

Week 8: Iris Recognition

Week 9: Spring Break (No Classes)

Week 10: Behavioral Biometrics / **Homework #4 Due**

Week 11: Multi-modal Biometrics & Biometric Fusion / **Homework #5 Due**

Week 12: Biometric System Security and Spoofing Pt. I

Week 13: Biometric System Security and Spoofing Pt. II/ **Exam #2**

Week 14: Biometric Template Protection / **Homework #6 Due**

Week 15: Privacy and Ethics

# Course Policies

- Grading concerns should be raised within one week after grades have been returned for a course item.
- Final grades will be based solely on the student's performance on the course items
- Questions on the material should be posted as discussions on CANVAS and not sent as email messages.

# Questions?