IV Year B.Tech. CSE II - Semester

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CS430 BIO METRICS
(ELECTIVE V)

Course Description & Objectives:

In this course students should understand how biometrics provides authentication, identification and security.

Course Outcomes:

- To understand the state-of-the-art in biometric technologies
- To survey the currently available biometric systems
- To learn and implement some of the biometrics authentication

UNIT I Introduction

Biometric Systems, Biometric Functionalities, Biometric System Errors, The Design Cycle of Biometric Systems, Applications of Biometric Systems.

UNIT II - Finger Print Recognition

Introduction, Friction Ridge Pattern, Fingerprint Acquisition, Feature Extraction, Matching, Fingerprint Indexing, Fingerprint Synthesis, Palmprint.

UNIT III - Face Recognition

Introduction, Image Acquisition, Face Detection, Feature Extraction and Matching, Advanced Topics: Handling Pose, Illumination and Expression variation, Homogenous Face Recognition, Face Modeling.

UNIT IV - Iris Recognition

Introduction, Design of Iris Recognition System, Iris Segmentation, Iris Normalization, Iris Encoding and Matching, Iris Quality, Performance Evaluation.

UNIT V Multi-Biometrics

Introduction, Sources of Multiple Evidence, Acquisition and Processing Architecture, Fusion Levels.

TEXT BOOK:

1. Anil K. Jain, Arun A. Ross, Karthik Nandakumar, Introduction to Biometrics, Springer .

REFERENCE BOOKS:

1. Samir Nanavati, Michael Thieme, Raj Nanavati,Biometrics – Identity Verification in a Networked World –WILEY

2. Paul Reid , Biometrics for Network Security-, 1/e, Pearson Education.

3. John D. Woodward, Biometrics- The Ultimate Reference- Wiley