COURSE	Name	: Biometric System
	Code	: EE185553
	Credit(s)	: 2
	Semester	: (Elective Course)

Description of Course

Students will have knowledge of biometrics systems using either single or multi-capital to identify someone based on physical attributes or behavior of people such as faces, fingerprints, sounds and iris.

Learning Outcomes

Knowledge

(P01) Mastering the concepts and principles of science in a comprehensive manner, and to develop procedures and strategies needed for the analysis and design of systems related to the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics as a preparation for further education or professional career.

Specific Skill

(KK01) Being able to formulate engineering problems with new ideas for the development of technology in power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

General Skill

(KU11) Being able to implement information and communication technology in the context of execution of his/her work.

Attitude

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

(S12) Working together to be able to make the most of his/her potential.

Course Learning Outcomes

Knowledge

Mastering the concepts and relationships of biometric systems ranging from sensors, extraction features, decision making and databases.

Specific Skill

Able to identify typical features obtained from an individual's physical parts including fingerprints, iris and sound

General Skill

Being able to build applications to identify or verify someone based on features typical of a person's physical part.

Attitude

Demonstrating attitude of being responsible for the work in his/her area of expertise independently.

Working together to be able to make the most of their potential.

Main Subjects

1. Multimodal sensor.
2. Extraction of features in different modalities such as fingerprints, sounds, faces.
3. Feature-based verification and identification method techniques.

Reference(s)

[1] Anil K. Jain, Patrick Flynn, Arun A. Ross, “Handbook of Biometrics”, Springer Publishing Company, Incorporated ©2010, ISBN:1441943757

[2] Negin, T. A. Chmielewski, M. Salganicoff, T. A. Camus,U. M. C. von Seelan, P. L. Venetianer, and G. G. Zhang, “An Iris Biometric System for Public and Personal Use”, IEEE Computer, 33(2):70–75, February 2000.

[3] M. S. Nixon, J. N. Carter, D. Cunado, P. S. Huang, and S. V. Stevenage, ”Automatic Gait Recognition. In A. K. Jain, R. Bolle, and S. Pankanti, editors, Biometrics: Personal Identification in Networked Society”, pages 231–249. Kluwer Academic Publishers, London, UK, 1999.

[4] L. O’Gorman, “Comparing Passwords, Tokens, and Biometrics for User Authentication”, Proceedings of the IEEE, 91(12):2019–2040, December 2003.

Prerequisite(s)

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