

New Fall Course

EE5391-001/7391-001; CSE5391-001/7391-001

Special Topics in Biometric Algorithms

Professor Delores M. Etter

Electrical Engineering Department

MW 12:30-1:50 pm

102 Junkins

Course Summary

This course will introduce you to the basic algorithms used in biometric identification using fingerprints, face recognition, iris recognition, and speech recognition. These algorithms include segmentation of an iris in an image, the thinning of the ridges in a fingerprint, and the identification of eyes/nose/chin in a face image. It will also cover algorithms in speech recognition that include linear predictive coding (LPC) and dynamic time warping. Since we will use MATLAB for most of the coding, the first three weeks of the class will focus on the capabilities of MATLAB, and will not assume any prior knowledge.

Course Grade

Course grade will be based primarily on projects, presentations, and class participation. Approximately one-fourth of the semester will be spent on the discussions and algorithm development for each of the four main biometrics – iris, fingerprint, face, and speech. We will only develop components of a complete recognition system; the development of a complete recognition system is beyond the scope and time available in the class.

Course Prerequisites

Successful completion of a programming course. No prior experience in biometrics is necessary.

Contact Professor Etter at detter@lyle.smu.edu if you have additional questions.