

POLYTECHNIC UNIVERSITY, BROOKLYN, NEW YORK

CS 9094 – Biometrics for Computer Authentication and Identification Spring 2007

Instructors: Lawrence O’Gorman, Nalini Ratha

Biometrics has emerged from relatively specialized use in the criminal forensics domain to more mainstream use for computer authentication, identification document security, and surveillance for public safety. This emergence has been accompanied by an expansion in biometric modality from mainly fingerprints to face, iris, hand, voice, and other novel biometrics. This course concentrates on the unique advantages that biometrics brings to computer security, but also addresses challenging issues such as security strength, recognition rates, and privacy, as well as alternatives of passwords and smart cards. Students will gain knowledge in the building blocks of this field: security and privacy, image and signal processing, and secure systems design. By the end of the course they will be able to evaluate and design security systems that include biometrics.

Reading Material:

- **Guide to Biometrics (Springer Professional Computing)** by R. Bolle, J. Connell, S. Pankanti, N. Ratha, Springer Press, 2003, ISBN0387400893

About the Instructors:



Lawrence O'Gorman was at Bell Labs as a Distinguished Member of Technical Staff from 1984 to 1997. From 1997 to 2001, he was chief scientist for Veridicom, a maker of fingerprint capture chips, and is currently a Research Scientist at Avaya Labs in the area of multimedia security. He has published over 70 refereed papers, has 16 patents, and has been a contributor to 4 biometrics standards. He has served on US government scientific panels to NIST, NSF, and NAE, and to France’s INRIA. He is a Fellow of the IEEE and of the International Association for Pattern Recognition. He received the Ph.D. degree in Electrical Engineering from Carnegie Mellon University.



Nalini Ratha is a Research Staff Member at the IBM Thomas J. Watson Research Center, Hawthorne where he leads the biometrics research activities. He has published more than 60 referenced journal and conference papers and is a co-inventor on 11 issued patents. He is an Associate Editor for Pattern Recognition journal and IEEE Trans. on Systems, Man and Cybernetics part B. He has co-chaired several biometrics conferences in recent years including IEEE AutoID, AVBPA, ICPR and BTAS. He is a Fellow of the IEEE (class of 2007). He graduated with a Ph. D. degree in computer science from Michigan State University.