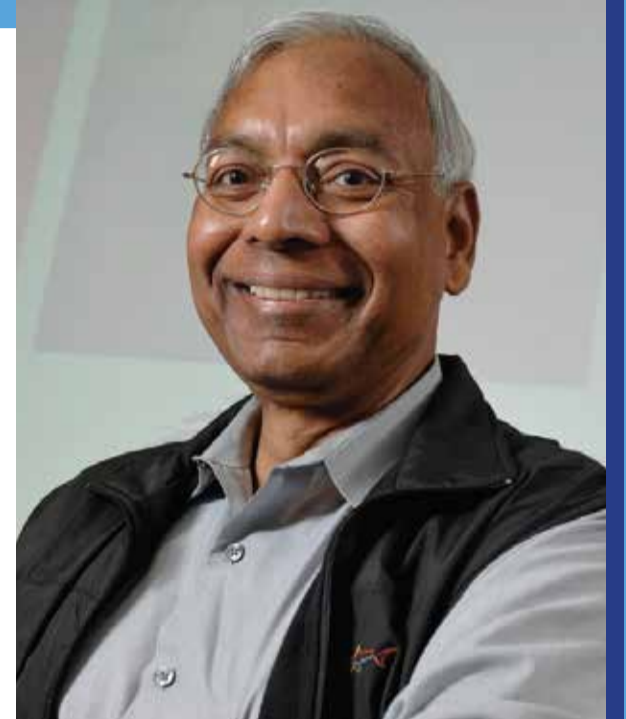




香港浸會大學
HONG KONG BAPTIST UNIVERSITY
計算機科學系
Department of Computer Science

Department of Computer Science Distinguished Lecture Series 2014/15

Biometric Recognition: Technology for Human Recognition



Prof. Anil K. Jain

University Distinguished Professor
Department of Computer Science & Engineering
Michigan State University

3:30 - 4:30pm | April 22, 2015 | Wednesday

RRS905, Sir Run Run Shaw Building, Ho Sin Hang Campus

Abstract

Biometric Recognition, or simply biometrics, refers to automated recognition of individuals based on their behavioral and biological characteristics. The success of fingerprints in forensics and law enforcement applications, coupled with growing concerns related to national security, financial fraud and cyber attacks, has generated a huge interest in utilizing fingerprints, as well as other biological traits, for automated person recognition. It is, therefore, not surprising to see biometrics permeating various segments of our society. Applications include smartphone security, mobile payment, border crossing, national civil registry, and access to restricted facilities. Despite these successful deployments, there are several existing challenges and new opportunities for person recognition using biometrics. In particular, when biometric data is acquired in an unconstrained environment or if the subject is uncooperative, their low quality and incomplete information content may not be amenable for recognition. As an example, recognizing subjects from face images captured in surveillance video frames is substantially more difficult than recognizing controlled mug shot images. Therefore, additional soft biometric cues such as scars, marks and tattoos may have to be used in conjunction with partial low-resolution face images to recognize a person. In some situations, a face image of the suspect may not even be available. Rather, a composite image rendered by a forensic artist based on verbal descriptions provided by witnesses, may have to be used for recognition purposes. Indeed, some of the more recent biometric applications have a forensic twist to them. This talk will discuss how biometrics evolved from forensics and how its focus is now shifting back to its origin in order to solve some of the challenging problems in biometrics and forensic science.

Biography

Anil K. Jain is a University Distinguished Professor in the Department of Computer Science & Engineering at Michigan State University. He was appointed an Honorary Professor at Tsinghua University and WCU Distinguished Professor at Korea University. He received B.Tech. degree from the Indian Institute of Technology, Kanpur (1969) and M.S. and Ph.D. degrees from Ohio State University in 1970 and 1973, respectively. His research interests include pattern recognition, computer vision and biometric recognition. His articles on biometrics have appeared in Scientific American, Nature, IEEE Spectrum, Comm. ACM, IEEE Computer1,2, Proc. IEEE1,2, Encarta, Scholarpedia, and MIT Technology Review.

He has received Guggenheim fellowship, Humboldt Research award, Fulbright fellowship, IEEE Computer Society Technical Achievement award, IEEE W. Wallace McDowell award, IAPR King-Sun Fu Prize, IEEE ICDM Research Contribution Award, IAPR Senior Biometric Investigator Award, and the MSU Withrow Teaching Excellence Award for contributions to pattern recognition and biometrics. He is a Fellow of the ACM, IEEE, AAAS, IAPR and SPIE. He has been listed among the "18 Indian Minds Who are Doing Cutting Edge Work" in the fields of science and technology, and felicitated with the MSU 2014 Innovator of the Year Award.

Anil Jain has been assigned six U.S. patents on fingerprint recognition (transferred to IBM in 1999) and two Korean patents on surveillance. He has also licensed technologies to Safran Morpho, world's leading biometric company, that deal with law enforcement and homeland security applications. He was a consultant to India's Aadhaar program that provides a 12-digit unique ID number to Indian residents based on their fingerprint and iris data. He is currently serving as an advisor to the Brazilian National ID project.

He currently serves as a member of the Forensic Science Standards Board and is co-organizing a program on Forensics (2015-2016) at the Statistical and Mathematical Sciences Institute (SAMSI).

Refer to his homepage: <http://www.cse.msu.edu/~jain/>.



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