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User Authentication for Emerging Interfaces

Abstract: Although keyboard and mouse are still the dominant means of interaction with a computer, new human-computer interfaces (HCIs) are rapidly emerging. Today, not only do we talk to a computer to send email, but we also touch the screen of a smartphone or tablet to navigate the web, wave a hand in front of a screen to browse a photo album, and even shake a smartphone or gaming controller to interact with a game. Clearly, we are in the middle of an HCI revolution, yet when it comes to user authentication we still largely rely on alphanumeric passwords and keyboards. Since such passwords are cumbersome to enter, one frequently opts for short/simple ones thus leading to security vulnerabilities.

This talk is an attempt to bring together research in developing user authentication methods for new and emerging HCIs. This is an interdisciplinary research area that includes, among others, biometrics, signal processing (including audio, image and video processing), computer vision, human factors, and beyond. The goal of the talk will be to present state of the art in user authentication for interfaces currently in use, and overview the challenges associated with new HCI modalities under development.

Biography: Nasir Memon is a professor in the Department of Computer Science and Engineering at NYU Tandon School of Engineering and an affiliate faculty at the Computer Science department in the Courant Institute of Mathematical Sciences at NYU. He is a founder of the Center for Cyber Security (CCS), a collaborative initiative of multiple schools within NYU including NYU-Law, NYU-Wagner, NYU-Stern, and NYU-Courant well as NYU Abu Dhabi. Prof. Memon is the founder and director of the Information Systems and Internet Security laboratory at NYU Tandon that organizes CSAW, the largest student run cyber security event.

He has published over 250 articles in journals and conference proceeding and has won several awards including the Jacobs Excellence in Education award and several best paper awards. He has been on the editorial boards of several journals and was the Editor-In-Chief of Transactions on Information Security and Forensics. He is an IEEE Fellow, and an SPIE Fellow.

His research interests include digital forensics, biometrics, data compression, network security and security and human behavior.

