

TRACK: IT Security
SESSION #: IT#7
DATE: Tuesday April 20, 2010
TIME: 11:25am-12:40pm
SESSION TITLE: "Advanced Image Forensics Techniques"
SPEAKER(S): Nasir Memon – Professor
ORGANIZATION: Polytechnic Institute of NYU

ABSTRACT: "Advances in Digital Image Forensics"

Given an image or video can you tell which camera it was taken from? Can you tell if it was manipulated? Given a camera or even a picture, can you find from the Internet all other pictures taken from the same camera? Forensics professionals all over the world are increasingly encountering such questions. This talk will describe latest research in image forensic techniques aimed at addressing them.

This talk will provide an overview of recent developments in the field, focusing on three problems:

1. Collecting image evidence and reconstructing them from fragments, with or without missing pieces. This involves sophisticated file carving technology.
2. Attributing the image to a source, be it a camera, a scanner, or a graphically generated picture. The process entails associating the image with a class of sources with common characteristics (device model) or matching the image to an individual source device, for example a specific camera.
3. Attesting to the integrity of image data. This involves image forgery detection to determine whether an image has undergone modification or processing after being initially captured.

SPEAKER BIO(S): Nasir Memon is a Professor in the computer science and engineering department at the Polytechnic Institute of New York University, New York. He is the director of the Information Systems and Internet Security (ISIS) lab at NYU-Poly.

Prof. Memon's research interests include Digital Forensics, Data Compression, Computer and Network Security and Media Security. He has published more than 200 articles in journals and conference proceedings and holds many patents in security and forensics. He has won several awards including the NSF CAREER award and the Jacobs Excellence in Education award. He has appeared on NBC nightly news as an expert on steganography and his research has been featured in NY Times, MIT Review, Wired.Com, New Science Magazine etc.

He is currently the Editor-in-Chief of the IEEE Transactions on Information Security and Forensics. He is also a co-founder of two start-ups in NYU-Poly incubator, names Digital Assembly and Vivic Netwkr.

