



Computer Science Seminar



Risk Aware Approach to Data Confidentiality in Cloud Computing

Dr. Sharad Mehrotra
University of California at Irvine
Tuesday, April 28, 2015 at 12:30 pm
Room: Computer Science 209

Abstract - This talk focuses on the issue of "loss of control" that results when users outsource data and computation to the clouds. While loss of control has multiple manifestations, we focus on the data privacy and confidentiality implications when cloud providers are untrusted. Instead of following the well-studied (but still unsolved) path of encrypting data when outsourcing and computing on the encrypted domain, the talk advocates a risk-based approach to partitioning computation over hybrid clouds that provides an abstraction to address secure cloud data processing in a variety of system and application contexts.

Brief Bio – Sharad Mehrotra is a Professor in the School of Information and Computer Science at University of California, Irvine and founding Director of the Center for Emergency Response Technologies (CERT) at UCI. He has served as the Director and PI of the RESCUE project (Responding to Crisis and Unexpected Events) funded by NSF through its prestigious large ITR program. He is the recipient of Outstanding Graduate Student Mentor Award in 2005. Prior to joining UCI, he was a member of the faculty at University of Illinois, Urbana Champaign in the Department of Computer Science where he was the recipient of the C. W. Gear Outstanding Junior Faculty Award.

Mehrotra's research expertise is in data management and distributed systems areas in which he has made many pioneering contributions. Two such contributions include the concept of "use of information retrieval techniques, particularly relevance feedback, in multimedia search" and "database as a service". Mehrotra is the recipient of three test of time awards: ACM SIGMOD test of time award in 2012 for the paper entitled "Executing SQL over Encrypted Data in the Database-Service-Provider Model", DASFAA test of time awards in 2013 and 2014 for paper entitled "Efficient record Linkage in large datasets" and "Efficient Execution of Aggregation Queries over Encrypted Databases". In addition, Mehrotra is a recipient of numerous best paper awards including SIGMOD 2001, DASFAA 2004, and ACM ICMR in 2013. Mehrotra's recent research focuses on data quality, secure cloud computing and sensor driven situational awareness systems.