

# Colloquium

Department of Computer Science

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Rajkumar P.V. is working as Assistant Professor of Information Systems in the Texas Southern University, Houston, Texas, since August 2015. Before joining TSU, he worked as a Post-doctoral Fellow in the Institute for Cyber Security, University of Texas, San Antonio. He obtained his B.E, M.E, and Ph.D. degrees in Computer Science and Engineering. His research and teaching interest are in Cyber Security and Formal Methods.

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Engineering Building A, Room 310

## **USAGE CONTROL AUTHORIZATION MODELING AND ANALYSIS**

### **Abstract**

Usage control authorization model is a security protection mechanism for the cyber systems to enforce various security policies. Cyber systems consist of computers, mobile devices, servers, cloud, Internet of Things, smart devices and the software applications that runs on these devices. Security policies state what are the permitted and what are not permitted usage of services and data in cyber systems, who are permitted and who are not permitted, and when they are permitted and when they are not permitted, etc. Any violation of stated security policies in the cyber system is called as a security breach. Securing cyber system refers to various ways of protecting data and services in the system from security breach. Security protection mechanisms are meant to prevent security breaches. Over time, more and more data will be collected, shared, and used in widely different ways through various technologies like mobile apps, cloud, and web services, IoT etc. Traditional access control models are not adequate for enforcing security policies governing today's cyber systems. Usage control authorization model is a comprehensive security protection mechanism which is suitable for most of the today's business scenarios. In this talk, we will present the usage control authorization modeling and its security analysis.