NJIT

Department of Computer Science

Differentially Private Analysis of Graphs

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Hosted by: Vincent Oria

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Coffee: 2:15 PM – 2:30 PM
Time: 2:30 PM – 3:30 PM
Location: GITC 4402 (4th floor Seminar Lecture Hall)
Zoom Link: https://njit-edu.zoom.us/j/92835004748?pwd=LFTnErA32jPPYR9GYaw40fyCMsnzNo.1

Abstract:
In recent years, graph analytics has been shown to provide huge value in many application domains. However, the growing adoption of graph analytics corresponds to an increasing need to protect sensitive information in graph data. In this context, differential privacy has become the de facto standard for privacy-preserving data analysis under strong mathematical guarantees. This talk provides a comprehensive overview of differentially private methods and techniques to protect sensitive information while conducting meaningful graph analysis. We explore a variety of definitions, mechanisms, examples, and case studies to demonstrate the application of these methods in various scenarios.

Bio:
Javam Machado is a full professor in the Computer Science Department at the Federal University of Ceará (UFC), Brazil. He holds a master's degree in computer science from the Federal University of Rio Grande do Sul, and a Ph.D. in Computer Science from Université de Grenoble, France. In 2010, Javam founded the Laboratory of Systems and Databases (LSBD) and has coordinated it ever since. At UFC, for 12 years, Javam was the director of information technology and for 2 years served as the coordinator of research and technological innovation. He also served as coordinator of the Special Committee on Databases of the SBC (2017) and was a visiting researcher at TelecomSudParis – FR (2001) and AT&T Labs-Research – USA (2018; 2020; 2023). Javam has published over 200 scientific articles and has supervised 44 master's students and 8 doctoral students. A CNPq research fellow and an ACM member, Professor Javam has scientific interests in the areas of personal data privacy and non-discrimination in machine learning techniques.