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SmartSeminar: Sala Ciminiera

Privacy in clustering: applications and algorithms



Alessandro Epasto

Alessandro Epasto is a staff research scientist at Google, New York working in the [Graph Mining team](#) part of the [Algorithms and Optimization team](#) lead by [Vahab Mirrokni](#). Alessandro received a Ph.D. in computer science from Sapienza University of Rome, advised by Professor [Alessandro Panconesi](#). Before joining Google, Alessandro was a postdoc at Brown University advised by Professor [Eli Upfal](#). His research interests include problems in the areas of privacy, clustering, and large-scale data analysis.

ABSTRACT

Clustering is a fundamental unsupervised machine learning problem that lies at the core of several real-world applications. While traditional clustering algorithms have not considered the privacy of the users providing the data, recently private clustering has received significant attention. In this talk I will cover recent research in clustering with differential privacy, a strong notion of privacy guarantee promising plausible deniability for user data. I will mostly cover work on clustering graph data. For graph clustering, I will focus on our recent work (ICML 2023) where we show edge-differentially private hierarchical clustering algorithms with provable approximation guarantees.

