1143-68-398 **Anand D. Sarwate*** (anand.sarwate@rutgers.edu), Department of ECE, Rutgers, The State University of New Jersey, 94 Brett Road, Piscataway, NJ 08854. *Learning latent structures under differential privacy.*

Differential privacy is a framework for understanding privacy risks when performing computation on sensitive data. In differential privacy, the goal is to obscure whether any particular individual's data was used in the computation. In differentially private machine learning methods, the goal is to learn or infer some property of the population: in this sense, privacy is compatible with learning since a good learning algorithm should not depend too strongly on individual data points. Many learning methods seek to infer some latent structure in the data. For example, principle components analysis tries to find a low-dimensional subspace such that most of the data lies close to this subspace. In this talk I will describe techniques for learning such structures under differential privacy. (Received August 19, 2018)