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Nota di contenuto	Thesis Overview -- Speech Processing Background -- Privacy Background -- Overview of Speaker Verification with Privacy -- Privacy-Preserving Speaker Verification Using Gaussian Mixture Models -- Privacy-Preserving Speaker Verification as String Comparison -- Overview of Speaker Identification with Privacy -- Privacy-Preserving Speaker Identification Using Gausian Mixture Models -- Privacy-Preserving Speaker Identification as String Comparison -- Overview of Speech Recognition with Privacy -- Privacy-Preserving Isolated-Word Recognition -- Thesis Conclusion -- Future Work -- Differentially Private Gaussian Mixture Models.
Sommario/riassunto	This thesis discusses the privacy issues in speech-based applications, including biometric authentication, surveillance, and external speech processing services. Manas A. Pathak presents solutions for privacy-preserving speech processing applications such as speaker verification, speaker identification, and speech recognition. The thesis introduces tools from cryptography and machine learning and current techniques for improving the efficiency and scalability of the presented solutions, as well as experiments with prototype implementations of the solutions

for execution time and accuracy on standardized speech datasets. Using the framework proposed may make it possible for a surveillance agency to listen for a known terrorist, without being able to hear conversation from non-targeted, innocent civilians.