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Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XVIII, 404 p. 163 illus., 130 illus. in color.)
Disciplina	005.8
Soggetti	Computer security Computer networks - Security measures
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	Part I Privacy Preserving Queries -- Range Queries over Encrypted Data -- Fast and Scalable Range and Keyword Query Processing over Encrypted Data with Provable Adaptive Security -- Nearest Neighbor Queries over Encrypted Data -- K-nearest Neighbor Queries over Encrypted Data -- Top-k Queries for Two-tiered Sensor Networks -- Part II Privacy Preserving Computation -- Collaborative Enforcement of Firewall Policies in Virtual Private Networks -- Privacy Preserving Quantification of Cross-Domain Network Reachability -- Cross-Domain Privacy-Preserving Cooperative Firewall Optimization -- Privacy Preserving String Matching for Cloud Computing -- Privacy Preserving Information Hub Identification in Social Networks -- Part III Differential Privacy -- Publishing Social Network Data with Privacy Guarantees -- Predictable Privacy-Preserving Mobile Crowd Sensing -- Differentially Private and Budget Limited Bandit Learning over Matroids -- Part IV Breaking Privacy -- Breaching Privacy in Encrypted Instant Messaging Networks.
Sommario/riassunto	This book introduces the state-of-the-art algorithms for data and computation privacy. It mainly focuses on searchable symmetric encryption algorithms and privacy preserving multi-party computation algorithms. This book also introduces algorithms for breaking privacy, and gives intuition on how to design algorithm to counter privacy attacks. Some well-designed differential privacy algorithms are also

included in this book. Driven by lower cost, higher reliability, better performance, and faster deployment, data and computing services are increasingly outsourced to clouds. In this computing paradigm, one often has to store privacy sensitive data at parties, that cannot fully trust and perform privacy sensitive computation with parties that again cannot fully trust. For both scenarios, preserving data privacy and computation privacy is extremely important. After the Facebook–Cambridge Analytical data scandal and the implementation of the General Data Protection Regulation by European Union, users are becoming more privacy aware and more concerned with their privacy in this digital world. This book targets database engineers, cloud computing engineers and researchers working in this field. Advanced-level students studying computer science and electrical engineering will also find this book useful as a reference or secondary text.
