

1. Record Nr.	UNISA996546830103316
Autore	Zhang Chu'an
Titolo	Privacy-preserving in mobile crowdsensing // Chuan Zhang [and three others]
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore Pte Ltd., , [2023] ©2023
ISBN	981-19-8315-1
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (205 pages)
Disciplina	681.2
Soggetti	Computer networks - Security measures Computer security Data encryption (Computer science) Data protection Mobile computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Part I. Overview and Basic Concept of Mobile Crowdsensing Technology -- Chapter 1. Introduction -- Chapter 2. Overview of Mobile Crowdsensing Technology -- Part II. Privacy-Preserving Task Allocation -- Chapter 3. Privacy-Preserving Content based Task Allocation -- Chapter 4. Privacy-Preserving Location based Task Allocation -- Part III. Privacy-Preserving Truth Discovery -- Chapter 5. Privacy-Preserving Truth Discovery with Truth Transparency -- Chapter 6. Privacy-Preserving Truth Discovery with Truth Hiding -- Chapter 7. Privacy-Preserving Truth Discovery with Task Hiding -- Part IV. Summary and Future Research Directions -- Chapter 8. Summary.
Sommario/riassunto	Mobile crowdsensing is a new sensing paradigm that utilizes the intelligence of a crowd of individuals to collect data for mobile purposes by using their portable devices, such as smartphones and wearable devices. Commonly, individuals are incentivized to collect data to fulfill a crowdsensing task released by a data requester. This "sensing as a service" elaborates our knowledge of the physical world by opening up a new door of data collection and analysis. However, with the expansion of mobile crowdsensing, privacy issues urgently

need to be solved. In this book, we discuss the research background and current research process of privacy protection in mobile crowdsensing. In the first chapter, the background, system model, and threat model of mobile crowdsensing are introduced. The second chapter discusses the current techniques to protect user privacy in mobile crowdsensing. Chapter three introduces the privacy-preserving content-based task allocation scheme. Chapter four further introduces the privacy-preserving location-based task scheme. Chapter five presents the scheme of privacy-preserving truth discovery with truth transparency. Chapter six proposes the scheme of privacy-preserving truth discovery with truth hiding. Chapter seven summarizes this monograph and proposes future research directions. In summary, this book introduces the following techniques in mobile crowdsensing: 1) describe a randomizable matrix-based task-matching method to protect task privacy and enable secure content-based task allocation; 2) describe a multi-clouds randomizable matrix-based task-matching method to protect location privacy and enable secure arbitrary range queries; and 3) describe privacy-preserving truth discovery methods to support efficient and secure truth discovery. These techniques are vital to the rapid development of privacy-preserving in mobile crowdsensing.

---