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Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- List of Figures -- List of Algorithms -- About the Authors -- Foreword -- Preface -- Acknowledgements -- Acronyms -- Chapter 1 Introduction -- 1.1 IoT in 5G -- 1.1.1 What Is IoT -- 1.1.2 Applications of IoT -- 1.1.3 Future of IoT -- 1.2 IoT Networks -- 1.3 Characteristics of IoT Signals -- 1.4 Outline -- Chapter 2 Background of IoT Signal Detection -- 2.1 Random Access -- 2.1.1 Grantbased Random Access -- 2.1.2 Grantfree Random Access -- 2.2 Signal Detection Methods -- 2.2.1 System Model -- 2.2.2 ML Detection -- 2.2.3 ZF Detection -- 2.2.4 MMSE Detection -- 2.2.5 MCMC Detection -- 2.2.6 VI Detection
Sommario/riassunto	This book delves into the complexities and methodologies of signal detection within the Internet of Things (IoT) context, particularly in relation to 5G technology. It provides a comprehensive exploration of

various signal detection techniques, including sparse signal detection, collided signal detection, and multiple delay estimation. The book is designed to serve as a resource for both graduate students and practitioners in the fields of communications and technology, offering insights into the challenges of IoT networks, signal collision, and access congestion. It also covers advanced topics such as backscatter signal detection, NOMA signal analysis, and multicluster coordination in signal design. The authors aim to equip readers with the necessary theoretical and practical knowledge to address current and future challenges in IoT signal detection.

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