1. | Record Nr. | UNINA9910366599603321 |

Autore: Du Zhiyong

Titolo: Towards User-Centric Intelligent Network Selection in 5G Heterogeneous Wireless Networks : A Reinforcement Learning Perspective / / by Zhiyong Du, Bin Jiang, Qihui Wu, Yuhua Xu, Kun Xu

Pubbl/distr/stampa: Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020

ISBN: 981-15-1120-9

Edizione: [1st ed. 2020.]

Descrizione fisica: 1 online resource (XII, 136 p. 45 illus., 42 illus. in color.)

Disciplina: 384.5

Soggetti:
Wireless communication systems
Mobile communication systems
Computer communication systems
Electrical engineering
Information theory
Wireless and Mobile Communication
Computer Communication Networks
Communications Engineering, Networks
Information and Communication, Circuits

Lingua di pubblicazione: Inglese

Formato: Materiale a stampa

Livello bibliografico: Monografia

Nota di contenuto: Introduction -- Learning the Optimal Network with Handoff Constraint: MAB RL Based Network Selection -- Learning the Optimal Network with Context Awareness: Transfer RL Based Network Selection -- Meeting Dynamic User Demand with Transmission Cost Awareness: CT-MAB RL Based Network Selection -- Meeting Dynamic User Demand with Handoff Cost Awareness: MDP RL Based Network Handoff -- Matching Heterogeneous User Demands: Localized Cooperation Game and MARL based Network Selection -- Exploiting User Demand Diversity: QoE game and MARL Based Network Selection -- Future Work.

Sommario/riassunto: This book presents reinforcement learning (RL) based solutions for user-centric online network selection optimization. The main content can be divided into three parts. The first part (chapter 2 and 3) focuses on how to learning the best network when QoE is revealed beyond QoS

under the framework of multi-armed bandit (MAB). The second part (chapter 4 and 5) focuses on how to meet dynamic user demand in complex and uncertain heterogeneous wireless networks under the framework of markov decision process (MDP). The third part (chapter 6 and 7) focuses on how to meet heterogeneous user demand for multiple users inlarge-scale networks under the framework of game theory. Efficient RL algorithms with practical constraints and considerations are proposed to optimize QoE for realizing intelligent online network selection for future mobile networks. This book is intended as a reference resource for researchers and designers in resource management of 5G networks and beyond.