



1st ed. 2020, XII, 136 p. 45 illus., 42 illus. in color.

### Printed book

Hardcover

149,99 € | £129.99 | \$179.99

<sup>[1]</sup>160,49 € (D) | 164,99 € (A) | CHF 177,00

### eBook

117,69 € | £103.50 | \$139.00

<sup>[2]</sup>117,69 € (D) | 117,69 € (A) | CHF 141,50

Available from your library or [springer.com/shop](http://springer.com/shop)

### MyCopy <sup>[3]</sup>

Printed eBook for just

€ | \$ 24.99

[springer.com/mycopy](http://springer.com/mycopy)

Z. Du, B. Jiang, Q. Wu, Y. Xu, K. Xu

# Towards User-Centric Intelligent Network Selection in 5G Heterogeneous Wireless Networks

## A Reinforcement Learning Perspective

- Offers new insights into how to model and exploit user demand in resource management
- Provides various application examples of reinforcement learning algorithms on resource management of wireless networks
- Presents novel game models and associated MARL algorithms

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 QoS 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 in large-scale networks under the framework of game theory. Efficient RL algorithms with practical constraints and considerations are proposed to optimize QoS 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.

Order online at [springer.com](http://springer.com) / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com). / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com).

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

