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Altri autori (Persone)	RedinoChristopher NandakumarDhruv CodyTyler ShettySachin RadkeDan
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Soggetti	Reinforcement learning Penetration testing (Computer security)
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Sommario/riassunto	A comprehensive and up-to-date application of reinforcement learning concepts to offensive and defensive cybersecurity In Reinforcement Learning for Cyber Operations: Applications of Artificial Intelligence for Penetration Testing, a team of distinguished researchers delivers an incisive and practical discussion of reinforcement learning (RL) in cybersecurity that combines intelligence preparation for battle (IPB) concepts with multi-agent techniques. The authors explain how to conduct path analyses within networks, how to use sensor placement to increase the visibility of adversarial tactics and increase cyber defender efficacy, and how to improve your organization's cyber posture with RL

and illuminate the most probable adversarial attack paths in your networks. Containing entirely original research, this book outlines findings and real-world scenarios that have been modeled and tested against custom generated networks, simulated networks, and data. You'll also find:

- * A thorough introduction to modeling actions within post-exploitation cybersecurity events, including Markov Decision Processes employing warm-up phases and penalty scaling
- * Comprehensive explorations of penetration testing automation, including how RL is trained and tested over a standard attack graph construct
- * Practical discussions of both red and blue team objectives in their efforts to exploit and defend networks, respectively
- * Complete treatment of how reinforcement learning can be applied to real-world cybersecurity operational scenarios

Perfect for practitioners working in cybersecurity, including cyber defenders and planners, network administrators, and information security professionals, Reinforcement Learning for Cyber Operations: Applications of Artificial Intelligence for Penetration Testing will also benefit computer science researchers.
