

1. Record Nr.	UNINA9911019975303321
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Titolo	Reinforcement Learning for Cyber Operations : Applications of Artificial Intelligence for Penetration Testing
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2025 ©2025
ISBN	9781394206476 139420647X 9781394206483 1394206488 9781394206469 1394206461
Edizione	[1st ed.]
Descrizione fisica	1 online resource (289 pages)
Altri autori (Persone)	RedinoChristopher NandakumarDhruv CodyTyler ShettySachin RadkeDan
Disciplina	006.3/1
Soggetti	Reinforcement learning Penetration testing (Computer security)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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.

2. Record Nr.

Titolo

UNINA9910895894003321

Organon / Institut d'Histoire de la Science Aupres de l'Academie Polonaise des Sciences avec le concours de la Division d'Histoire des Sciences de l'Union Internationale d'Histoire et de Philosophie des Sciences ; La Kasa Im. J. Mianowskiego - Fonds "Drogomir"

Pubbl/distr/stampa

Warszawa, : Inst. Historii Nauki Polskiej Akad. Nauk, 1964-

Warszawa, : Panstw. Wydawn. Naukowe, anfangs

Descrizione fisica

Online-Ressource

Classificazione

CC 6100

Disciplina

700

Soggetti

Technik

Naturwissenschaften

Wissenschaft

Zeitschrift

Lingua di pubblicazione

Polacco

Formato

Materiale a stampa

Livello bibliografico

Periodico

Note generali

Gesehen am 28.10.2020

