1. Record Nr. UNINA9910584481203321 Autore Oakley Jacob G. Titolo Theoretical cybersecurity: principles and advanced concepts / / Jacob G. Oakley [and four others] Berkeley, California:,: Apress,, [2022] Pubbl/distr/stampa ©2022 **ISBN** 1-4842-8300-7 Descrizione fisica 1 online resource (224 pages) Disciplina 005.8 Soggetti Computer security - Technological innovations Computer security - Philosophy Computer security - Forecasting Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. Nota di contenuto Chapter 1. Introduction Chapter 2. A Cyber Taxonomy Chapter 3. Cost Benefit Chapter 4. Roles and Responsibilities Chapter 5. Experimentation Chapter 6. Strategic Cybersecurity Chapter 7. Strategic Defensive Security Chapter 8. Infinite Cybersecurity Chapter 9. Cybersecurity and Game Theory Chapter 10. Game Theory Case Study: Ransomware Sommario/riassunto There is a distinct lack of theoretical innovation in the cybersecurity industry. This is not to say that innovation is lacking, as new technologies, services, and solutions (as well as buzzwords) are emerging every day. This book will be the first cybersecurity text aimed at encouraging abstract and intellectual exploration of cybersecurity from the philosophical and speculative perspective. Technological innovation is certainly necessary, as it furthers the purveying of goods and services for cybersecurity producers in addition to securing the

attack surface of cybersecurity consumers where able. The issue is that the industry, sector, and even academia are largely technologically focused. There is not enough work done to further the trade--the craft of cybersecurity. This book frames the cause of this and other issues, and what can be done about them. Potential methods and directions are outlined regarding how the industry can evolve to embrace

theoretical cybersecurity innovation as it pertains to the art, as much as to the science. To do this, a taxonomy of the cybersecurity body of work is laid out to identify how the influences of the industry's past and present constrain future innovation. Then, cost-benefit analysis and right-sizing of cybersecurity roles and responsibilities--as well as defensible experimentation concepts--are presented as the foundation for moving beyond some of those constraining factors that limit theoretical cybersecurity innovation. Lastly, examples and case studies demonstrate future-oriented topics for cybersecurity theorization such as game theory, infinite-minded methodologies, and strategic cybersecurity implementations. What you'll learn The current state of the cybersecurity sector and how it constrains theoretical innovation How to understand attacker and defender cost benefit The detect, prevent, and accept paradigm How to build your own cybersecurity box Supporting cybersecurity innovation through defensible experimentation How to implement strategic cybersecurity Infinite vs finite game play in cybersecurity Who This Book Is For This book is for both practitioners of cybersecurity and those who are required to, or choose to, employ such services, technology, or capabilities.