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## **About the book**

Cybersecurity is fraught with hidden and unsuspected dangers and difficulties. Despite our best intentions, common and avoidable mistakes arise from folk wisdom, faulty assumptions about the world, and our own human biases. Cybersecurity implementations, investigations, and research all suffer as a result. Many of the bad practices sound logical, especially to people new to the field of cybersecurity, and that means they get adopted and repeated despite not being correct. For instance, why isn't the user the weakest link?

- Read over 175 common misconceptions held by users, leaders, and cybersecurity professionals, along with tips for how to avoid them.
- Learn the pros and cons of analogies, misconceptions about security tools, and pitfalls of faulty assumptions. What is the weakest link? When aren't best practices best?
- Discover how others understand cybersecurity and improve the effectiveness of cybersecurity decisions as a user, a developer, a researcher, or a leader.
- Get a high-level exposure to why statistics and figures may mislead, as well as enlighten.
- Develop skills to identify new myths, strategies to avoid future pitfalls, and techniques to help mitigate them.
- Fall down the rabbit hole of analogies with whimsical illustrations of complex concepts and extensive citations and humor-tinged prose that explain them.

## What Experts are saying

“You are made to feel as if you would never fall for this, and somehow this makes each case all the more memorable....Read the book, laugh at the right places, and put your learning to work. You won't regret it.”

Vint Cerf, Internet Pioneer

“Many security leaders are traditionally in charge of correcting misconceptions just as much as they are in charge of building up solid security practices. We have plenty of resources on practices—but this book is the crucial guide to that essential myth busting.”

Phil Venables, CISO, Google Cloud

I'm writing this on my phone, over Wi-Fi, in an airplane on my way to Black Hat, one of the world's largest security conferences. The fact that I'm able to do this at all shows how much we've really learned about cybersecurity over the decades. Now it's all collected in one place for everyone to share. Thank the wise authors, and most importantly: *get off their lawn.*”

Wendy Nather, Head of Advisory CISOs, Cisco

I am happy to endorse the central idea of this book—that cybersecurity is rife with myths that are themselves part of the problem. The brain wants to understand, the world grows ever more complicated, and the sum of the two is myth-making. As the authors say, even if some understanding is true at some time, with enough change what was true becomes a myth soon enough. As such, an acquired immunity to myths is a valuable skill for the cybersecurity practitioner if no other. The paramount goal of all security engineering is No Silent Failure, but myths perpetuate if not create silent failure. Why? Because a state of security is the absence of unmitigable surprise and you cannot mitigate what you don't know is going on. Myths blind us to reality. Ignorance of them is not bliss. This book is a vaccine.”

Dan Geer, CISO, In-Q-Tel

This is a fun read for all levels. I like their rapid-fire delivery and the general light they cast on so many diverse myths. This book will change the cybersecurity industry for the better.”

Michael Sikorski, Author of *Practical Malware Analysis* &  
CTO, Unit 42 at Palo Alto Networks

This book is astounding. A true tour de force—which I have never said about any other book. Inverting the viewpoint is a stroke of genius. This is going to be on my grabbable-at-any-time shelf. What I learned, recalled, and was refreshed on with technically astute agnosticism

cannot be measured; just appreciated as a profound historical compilation of security practice and theory. Bravo!”

Winn Schwartau

Founder and Chief Visionary Officer, The Security Awareness Company

## About the authors and illustrator

**Eugene H. Spafford** is one of the most senior academics in cybersecurity. During his 40-plus years in computing—including 35 years as a faculty member at Purdue University, where he founded CERIAS, the Center for Education and Research in Information Assurance and Security—Spaf (as he is widely known) has worked on issues in privacy, public policy, law enforcement, intelligence, software engineering, education, social networks, operating systems, and cybersecurity. He has developed fundamental technologies in intrusion detection, incident response, firewalls, integrity management, and forensic investigation.

Dr. Spafford is a Fellow of the American Academy of Arts and Sciences (AAA&S), the Association for the Advancement of Science (AAAS), the ACM, the IEEE, and the (ISC)<sup>2</sup>; a Distinguished Fellow of the ISSA; and a member of the Cyber Security Hall of Fame—the only person ever to hold all these distinctions. In 2012, he was named one of Purdue’s inaugural Morrill Professors—the university’s highest award for the combination of scholarship, teaching, and service. In 2016, he received the State of Indiana’s highest civilian honor by being named a Sagamore of the Wabash. More information may be found at <https://ceri.as/spaf-bio>.

**Leigh Metcalf** is a Senior Network Security Research Analyst at the Carnegie Mellon University Software Engineering Institute’s cybersecurity (CERT) division. CERT is composed of a diverse group of researchers, software engineers, and security analysts who are developing cutting-edge information and training to improve the practice of cybersecurity. Before joining CERT, Leigh spent more than ten years in industry working as a systems engineer, architect, and security specialist.

Dr. Metcalf has presented research at numerous conferences. She is the co-author (with William Casey) of the book *Cybersecurity and Applied Mathematics* (Syngress, 2016) as well as the co-author (with Jonathan Spring) of the book *Using Science in Cybersecurity* (World Scientific, 2021). She is also the Co-Editor-in-Chief (with Arun Lakhotia) of the ACM journal *Digital Threats: Research and Practice* (DTRAP).

**Josiah Dykstra** is a seasoned cybersecurity practitioner, researcher, author, and speaker. He is a senior leader in the Cybersecurity Collaboration Center at the National Security Agency (NSA) and the owner of Designer Security, LLC. Dr. Dykstra holds a Ph.D. in computer science and previously served as a cyber operator and researcher. He is interested in cybersecurity science, especially where humans intersect with technology. He has studied stress in hacking, action bias in incident response, and the economics of knowing when sharing threat intelligence is more work than it is worth.

Dr. Dykstra is a frequent author and speaker at Black Hat and RSA Conferences. He received the CyberCorps® Scholarship for Service (SFS) fellowship and is one of six people in the SFS Hall of Fame. In 2017, he received the Presidential Early Career Award for Scientists and Engineers (PECASE) from then-President Barack Obama. Dr. Dykstra is a Fellow of the American Academy of Forensic Sciences and a Distinguished Member of the Association for Computing Machinery (ACM). He is the author of numerous research papers and the book *Essential Cybersecurity Science* (O’Reilly Media, 2016). More information may be found at <https://josiahdykstra.com>

**Pattie Spafford** is a freelance artist, writer, and equestrienne. She holds a Ph.D. in art education. This Dr. Spafford has over 25 years of experience in K–12, college education, and community and museum art programs. Her current major research project integrates geography, art, and horses. Pattie maintains an active studio practice with bead embroidery and ink drawing as her preferred media.

Dr. Pattie's programs have received awards from national, state, and local arts agencies throughout her career, including the National Endowment for the Arts, the Louisiana Board of Regents, a NAHRO National Award of Merit, and the Louisiana Art Education Association Art Educator of the Year.

## **Errata & Corrigenda**

None yet!

## **Contact the team**

The team members are available for speaking engagements and consulting; The illustrator does some commissioned work in various media.

To contact the team, send an email to [team@cybermyths.net](mailto:team@cybermyths.net)