Cybersecurity Career Academy

Thomas Nudd
Chief Information Security Officer - USNH
Agenda

• My Cybersecurity Career Path
• What is Cybersecurity?
• Business is Booming!
• What are the Different Roles?
• So you want to be a Cyber Pro?
• What are some resources to learn from?
• Ok, I have learned some things, how do I prove it?
• The Big Reveal!

Disclaimer – Slides contain my thoughts and opinions based on my career experiences 😊
My Cybersecurity Career Path

- BS – Marketing and International Business – UMaine
- Marketing Intern – Stonewall Kitchen
- Market Management – Liberty Mutual
- MBA – SNHU

------ Re-Org ------

- Cybersecurity Career Begins
- MS Information Assurance – Norwich University
- Vuln Management -> Log Management -> Incident Response -> SysAdmin -> Cybersecurity Engineer -> Building a SOC -> Director of Cybersecurity Engineering -> Director of Cloud Security Engineering -> CISO USNH.
What is Cybersecurity?

“Cybersecurity is the art of protecting networks, devices, and data from unauthorized access or criminal use and the practice of ensuring confidentiality, integrity, and availability of information.” - CISA

**Security Hacker:**


**Computer Security:**


**Books:**

- *Cult of the Dead Cow*
- *Ghost In The Wires*
- *The Cuckoos’s Egg*
- **Tracers in the Dark – New!**
- *The Fifth Domain*
- *Counter Hack Reloaded*
“Cybersecurity workers protect our most important and private information, from bank accounts to sensitive military communications.”

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<tr>
<th>National level</th>
<th>New Hampshire</th>
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<tbody>
<tr>
<td><strong>TOTAL CYBERSECURITY JOB OPENINGS</strong></td>
<td><strong>1,075</strong></td>
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<tr>
<td>464,420</td>
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<tr>
<td><strong>TOTAL EMPLOYED CYBERSECURITY WORKFORCE</strong></td>
<td><strong>2,999</strong></td>
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<td>956,341</td>
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Cyberseek Project supported by The National Initiative for Cybersecurity Education (NICE), led by the National Institute of Standards and Technology (NIST)
Business is Still Booming!

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<tr>
<th>Total Cybersecurity Job Openings</th>
<th>Total Employed Cybersecurity Workforce</th>
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<tr>
<td><strong>National, 2023</strong></td>
<td><strong>National, 2023</strong></td>
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<tr>
<td>572,392</td>
<td>1,178,662</td>
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<td><strong>New Hampshire, 2023</strong></td>
<td><strong>New Hampshire, 2023</strong></td>
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<td>2,532</td>
<td>5,123</td>
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Key Traits I Look For When Hiring (In Priority Order)

- Ability to lead initiatives and diverse groups of people
- Ability to solve complex problems under pressure
- Decisiveness
- Ability to communicate clearly
- Proactiveness and willingness to learn
- Ability to work through adversity
- Foundational technical skillset
- Cybersecurity technical skillset
Specialized Job Roles in Cybersecurity

• Cybersecurity Engineer
• Cybersecurity Risk Analyst
• Privacy Analyst / Engineer
• Cybersecurity Compliance Analyst
• Cybersecurity Incident Responder
• Cybersecurity Vulnerability Analyst
• Security Operations Center (SOC) Engineer / Blue Team
• Penetration Tester / Certified Ethical Hacker (CEH) / Red Team
• Cybersecurity Threat Analyst
• Cybersecurity Developer
• Cybersecurity Data Scientist
• Cybersecurity Leadership BISO / CISO / CSO
Role Graph from Cyberseek.org
NICCS - National initiative for Cybersecurity Careers and Studies

CIS - The Center for Internet Security is an independent, nonprofit organization with a mission to create confidence in the connected world.
  - CIS Top 20
  - Hardening Templates

NIST - The National Institute of Standards and Technology is a physical sciences laboratory and non-regulatory agency of the United States Department of Commerce.
  - NIST CSF
  - NIST 800 - 53

CISA - The Cybersecurity and Infrastructure Security Agency leads the Nation’s strategic and unified work to strengthen the security, resilience, and workforce of the cyber ecosystem to protect critical services and American way of life.
  - Referential Guidance

OWASP - The Open Web Application Security Project (OWASP) is a nonprofit foundation that works to improve the security of software.
  - OWASP Top 10
**CSA** - The Cloud Security Alliance is the world’s leading organization dedicated to defining and raising awareness of best practices to help ensure a secure cloud computing environment.
  
  - **White Papers and Referential Guidance**

**SANS Institute** — The SysAdmin, Audit, Network, and Security Institute offers comprehensive, intensive training designed to help anyone, from auditors to CIOs to defend systems and networks against the most dangerous threats.
  
  - **Internet Storm Center**
  - **Reading Room**

**Private Tech Industry** — Microsoft, Amazon, Verizon, Google, Cisco, VMware, Crowdstrike, Splunk
  
  - **Published white papers, reference architectures, comprehensive documentation, RTFM.**


**Opensource, Free Tools and YouTube** — Download them, Watch and Learn!
Ok I Have Learned a Bit, How Can I Prove It?

Be Proactive and APPLY THY KNOWLEDGE

- Projects
- Labs
- Personal Life
- @Work

Certifications

- SANS
- ISCA^2
- CSA
- CEH
- ISACA
- CompTIA

Higher Education
You Already Are A Cybersecurity Professional.

You Are Our First Line of Defense.

Thank you!