



**Code
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Presents

Launch a Cyber Career in 2021

By David Lee, Cybersecurity Instructor

First, a story...



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Introduction



- Cyber education volunteer at CSNP
 - Content creator
- Helping career changers start exciting careers in computer operations and cybersecurity at Code Fellows
 - Instructor, curriculum developer
- Background
 - IT, OT, infrastructure, networking, and security
 - M.S. Cybersecurity & Information Assurance
 - CEH, Security+



David Lee
Cybersecurity
Instructor, Code
Fellows Seattle



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Why Security?

- What is cybersecurity?
- What do cyber professionals actually do?
- Is this industry for me?
- What skills should I be obtaining?
- How do I get started?



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Functions, Job Demand, Trends in Security

What is Cyber Security?



Management of information/cyber risk using:

- Organizational leadership
- Information risk management
- Technical risk management
- Posture management
- Threat intelligence
- Security operations center
- Incident response



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In High Demand



- 3.12 million unfilled cyber jobs globally
- STEM jobs steadily growing overall
- Need for expertise cuts across organizational stratospheres
 - IT pros need to know security
 - Developers need to know security
 - Executives need to know security



U.S.
879,157
(359,236)



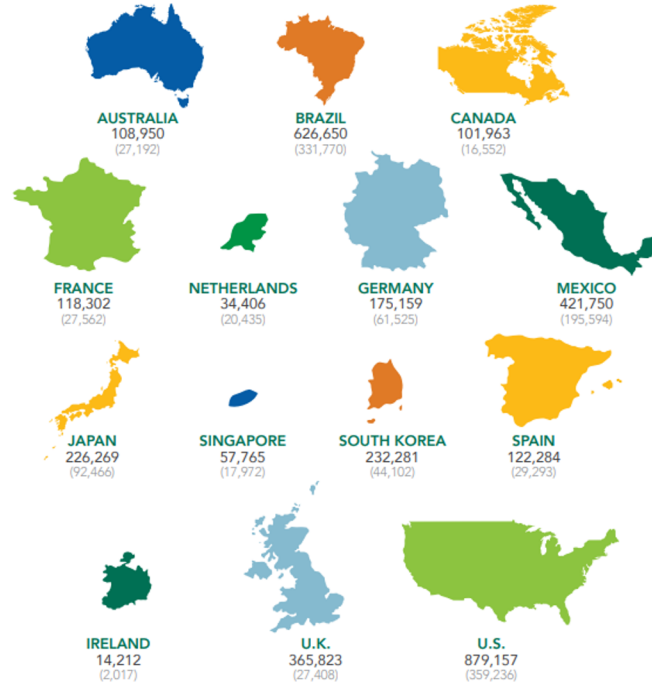
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In High Demand



Global Cybersecurity Workforce and Gap Estimates

The current cybersecurity workforce estimate is shown for each of the countries below, with the size of the workforce gap indicated in parentheses.



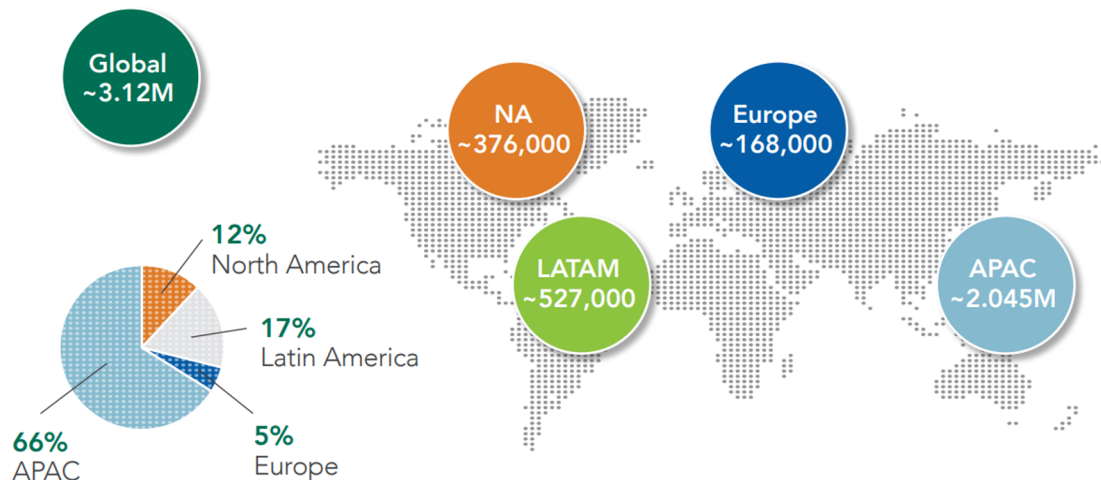
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Workforce Gap



The Cybersecurity Workforce Gap by Region

The global gap in the cybersecurity workforce varies by region, dominated by a gap of more than 2 million in the Asia-Pacific region.

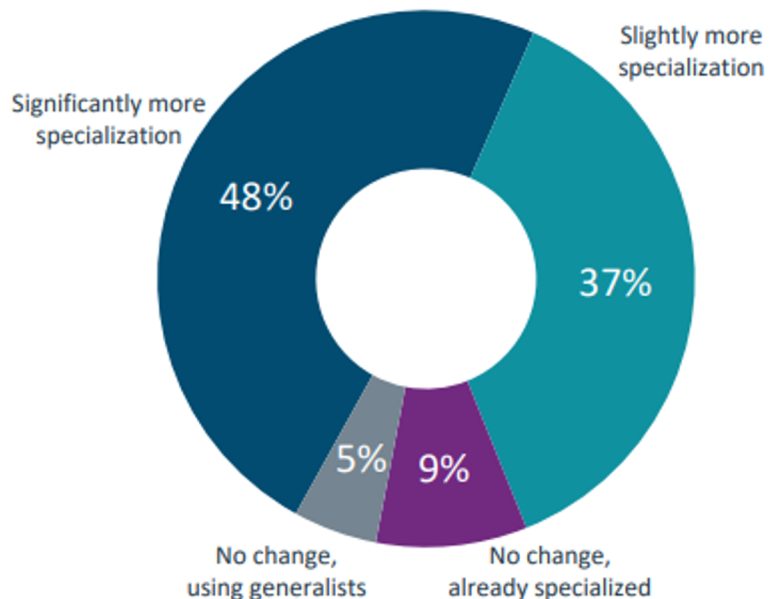


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Industry Trends



Approach to Cybersecurity Personnel



“...more demand for targeted skill in threat management, proactive testing, and regulatory compliance.”

- CompTIA, State of Cybersecurity 2020



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Industry Trends



“...there was a complete reimagining of business offerings and customer experience, and these new efforts relied on the modern paradigm of cloud and mobile infrastructure.”

- CompTIA, State of Cybersecurity 2020

Market	2019	2020	Growth
Application security	3,095	3,287	6.2%
Cloud security	439	585	33.3%
Data security	2,662	2,852	7.2%
Identity access management	9,837	10,409	5.8%
Infrastructure protection	16,520	17,483	5.8%
Integrated risk management	4,555	4,731	3.8%
Network security equipment	13,387	11,694	-12.6%
Other security software	2,206	2,273	3.1%
Security services	61,979	64,270	3.7%
Consumer security software	6,254	6,235	-0.3%
Total	120,934	123,818	2.4%

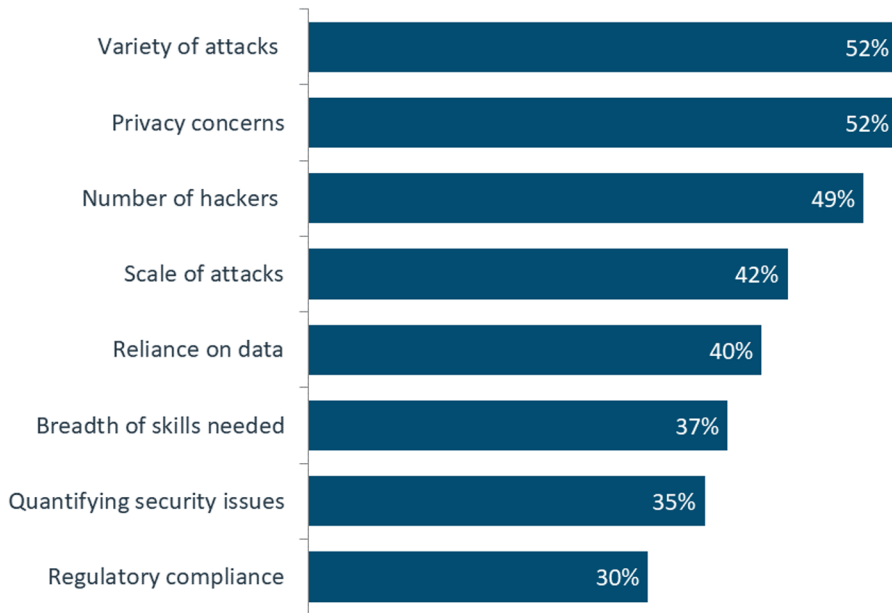
Source: Gartner | Spending amounts shown in millions of U.S. dollars



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Why Such Demand?

Main Issues Driving Cybersecurity



“With more opportunity for financial gain and the addition of other motivations, the number of cybercriminals has also exploded.”

- CompTIA, State of Cybersecurity 2020



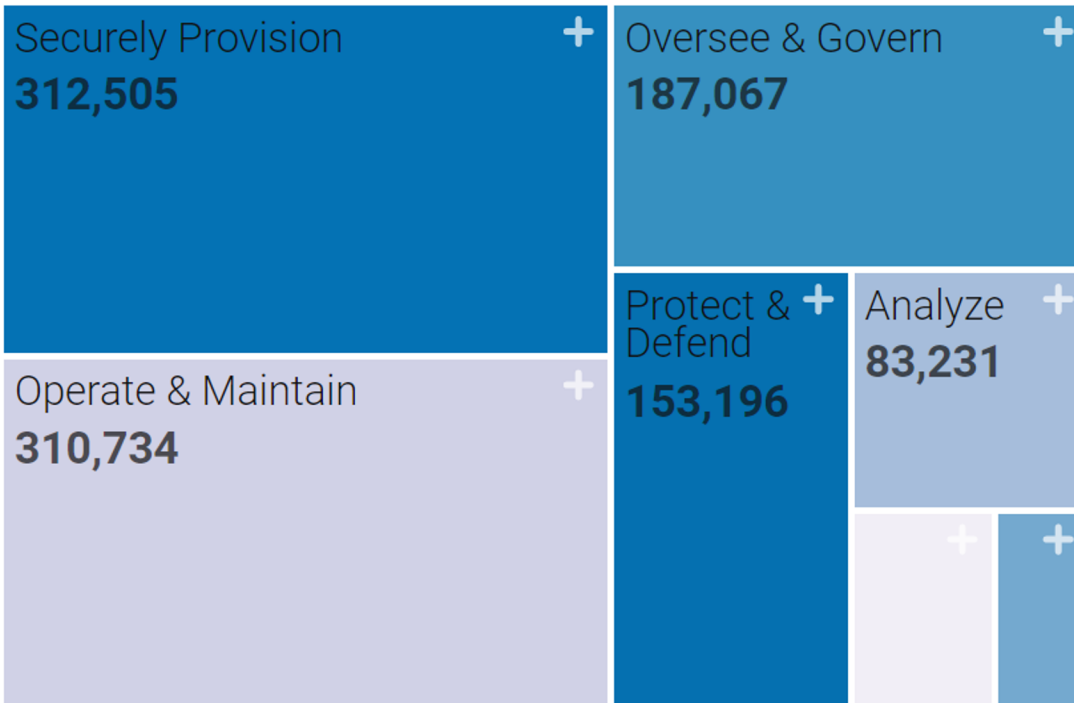
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Mapping Career Pathways

What do pros do?



NICE



Cyber Skills

What Skills?

- General Beginner Practice & Study
 - Computer Networking
 - Cloud
 - Application Security (AppSec)
 - Python
 - Containerization



*Joe Hudson,
Principal Recruiting
at HuntSource*



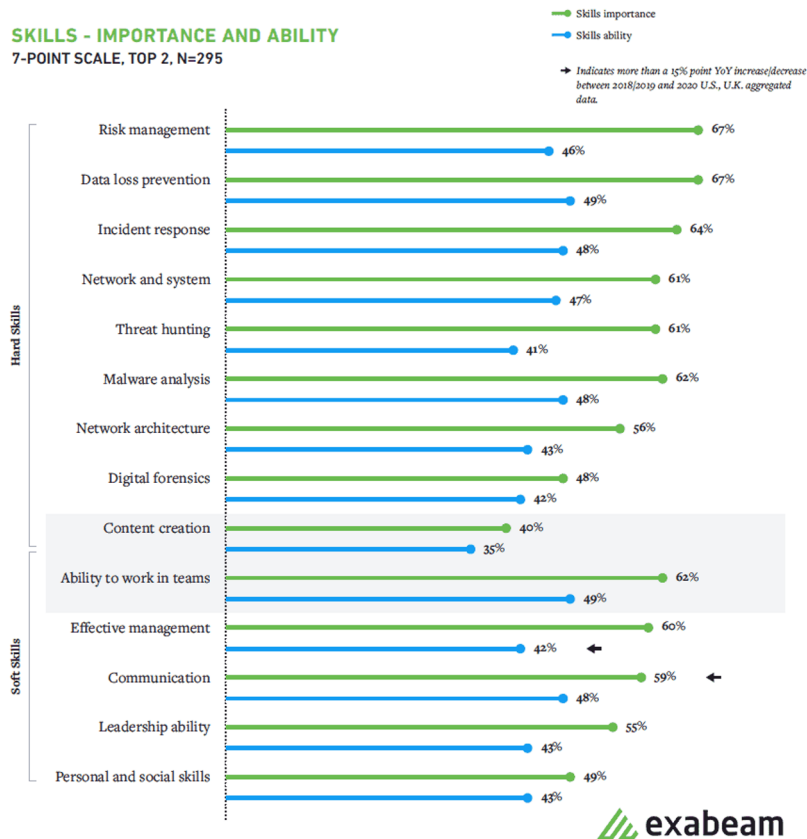
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What Skills?



SKILLS - IMPORTANCE AND ABILITY

7-POINT SCALE, TOP 2, N=295



“In last year’s report, respondents cited **personal and social skills** as the most critical soft skill for SOC employees. This year, however, 62% of respondents noted the **ability to work in teams** as the most important soft skill.”

- Exabeam State of SOC 2020



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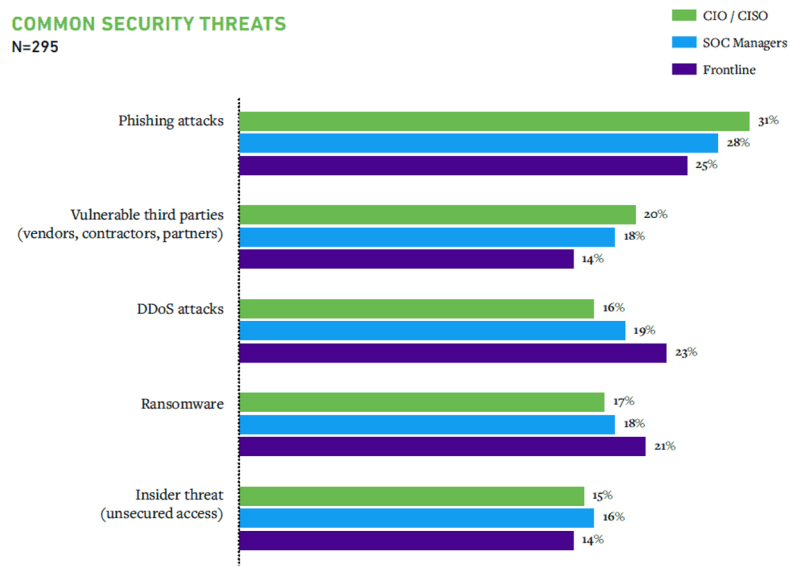
What Attacks?



“SOC leaders and analysts are confident in their ability to **detect** common security threats but do not **agree** on the threats”
- Exabeam State of SOC 2020

COMMON SECURITY THREATS

N=295



exabeam



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Certifications

Implementation

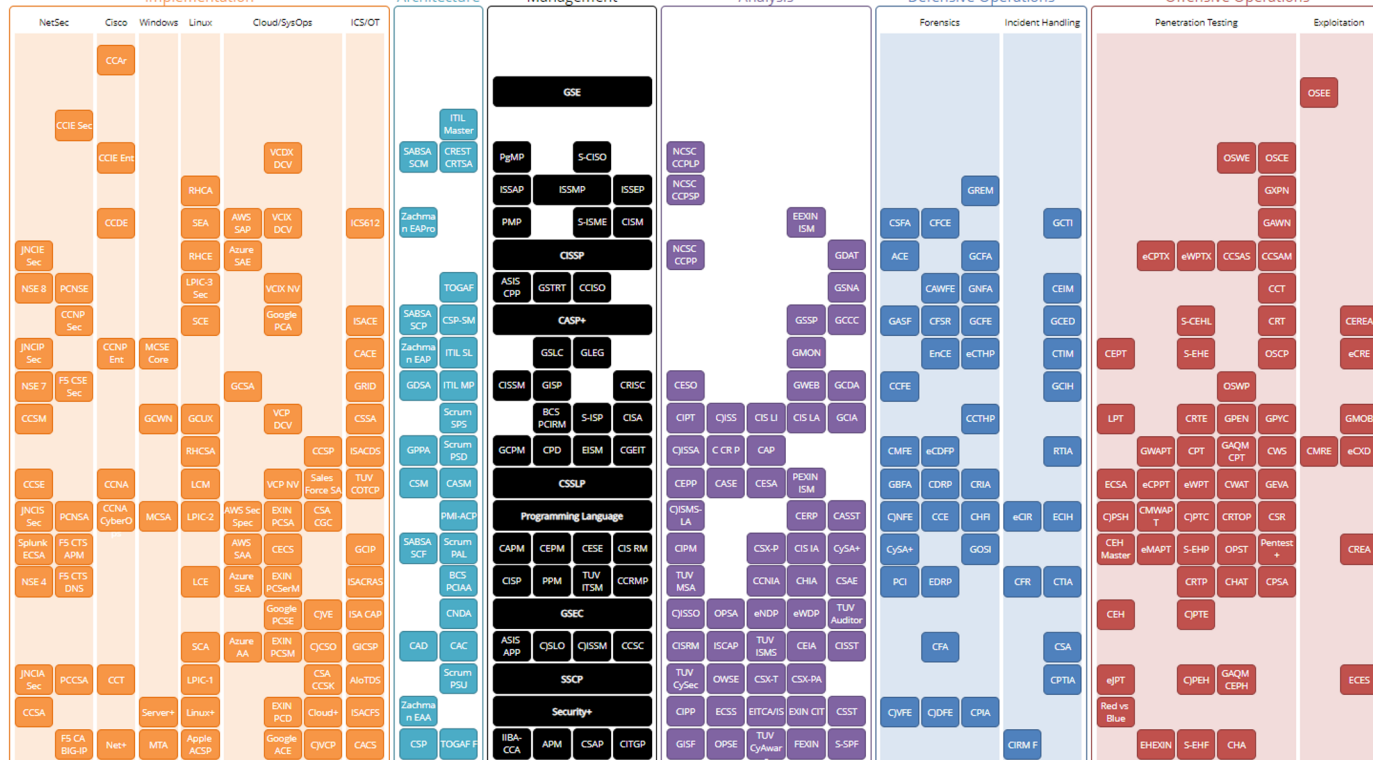
Architecture

Management

Analysis

Defensive Operations

Offensive Operations



What Certs?



- Foundational operations
 - CompTIA A+, Network+, Security+
- Defender
 - CompTIA CySA+, AWS Certified Cloud Practitioner or equivalent cloud certs
- Attacker
 - eJPT, CEH, CompTIA Pentest+

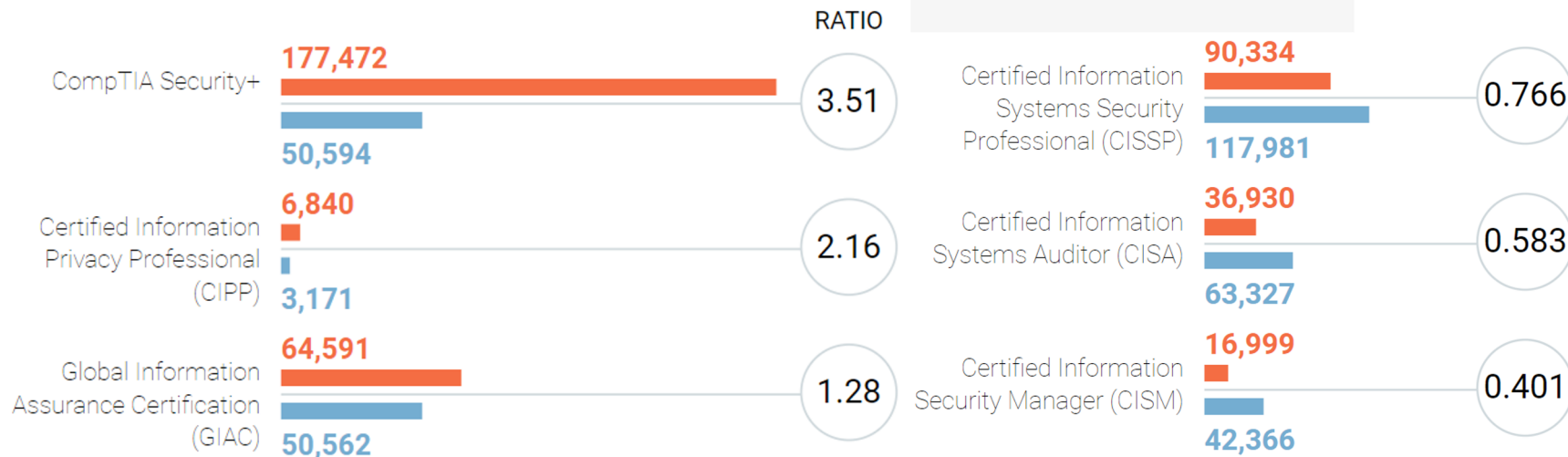


Certs by Demand



CERTIFICATION HOLDERS / OPENINGS REQUESTING CERTIFICATION ⓘ

■ Certification holders ■ Openings requesting certification



Roadmap to the Job

How to Start?



- Develop your skills
 - Solo, practical certification training, bootcamps
- Build your qualifications
 - Education, certifications
- Grow your network
 - LinkedIn, volunteer work



Obstacles

- Employers *not* investing in entry level
- Newcomers face massive competition
 - One strategy: Start in IT, move internally towards security role
- Rapid adoption of cloud shifting skill demand
 - AWS-adopted businesses demanding certs



Kris Rides
CEO, Tiro Security

A Roadmap to SOC

- Security Operations Center (SOC) Technician
 - Get practical hands-on experience
 - Code Fellows Cybersecurity Engineering Certification
 - Grow your industry knowledge
 - CompTIA Security+, AWS Cloud Practitioner
 - Expand your professional network
 - Create a blog. Use LinkedIn.
 - Start your first operations job



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- Training for non-technical career changers
 - **Ops 101:** Explore Ethical Hacking & Cybersecurity Careers
 - **Ops 102:** Intro to Computer Operations
 - **Ops 201:** Foundations of Computer Operations
 - **Ops 301:** Networking and Systems Administration
 - **Ops 401:** Cybersecurity Engineering



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