The Challenge of That First Job in Cybersecurity - Entry Level Roles and How to Qualify

June 17, 2020
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What’s Changed Over the Years?

- Terminology: IA > Infosec > Cybersecurity
- Awareness
- Shrinking time between vulnerability discovery and exploitation development
- Infosec spending
What’s Stayed the Same Over the Years?

- IT technical foundation for technical cybersecurity jobs
- Terrible software
- 4-year degree requirement
- Failure executing fundamentals
- Duplication, duplication
How Do We Align Our Education/Training to What Employers Want?

- Align tasks to the Occupational Information Network (O*Net) functional job roles
How Do We Align Our Education/Training to What Employers Want? (con’t)

- National CyberWatch Center Curriculum Standards Panels:

  https://www.nationalcyberwatch.org/csp
How Do We Align Our Education/Training to What Employers Want? (con’t)

- Contract training and educational programs
Quickest Pathways into the Workforce?

- Competitions
- Conferences
- Work with the technology: How to Build a Home Lab:

https://www.blackhillsinfosec.com/webcast-how-to-build-a-home-lab
Challenges: Entry-Level Work

- Community College brand
- Very few clearly delineated cybersecurity entry-level jobs
- Difficulty for a student/learner to acquire workplace experience for entry-level jobs
- Credentials (degrees and certifications) valued over capabilities
Opportunities: Entry-Level Work

- Mapping of Courses to Competency Frameworks:

  https://bit.ly/2BZcTXS
Opportunities: Entry-Level Work (con’t)

- Map functional job roles to curriculum:
  - Computer Network Defense Analyst
  - Computer Network Defense Infrastructure Support
  - Cyber Defense Analyst
  - Cyber Defense Forensics Analyst
  - Cybersecurity Defense Infrastructure Support/Specialist
  - Digital Forensics
  - Intrusion Detection System (IDS) Technician
  - Network Defense Technician
  - Vulnerability Assessment Analyst
Opportunities: Entry-Level Work (con’t)

- Skill Up to Scale Up™
Contact Information

- Casey W. O'Brien
- Executive Director & Principal Investigator
- National CyberWatch Center
- cobrien@nationalcyberwatch.org
**COVERAGE LETTERS**

**DO** customize & convey passion for team, company, and mission

**DON’T** swap company name & send. We can tell the difference

**PASSING THE EQ BAR**

**DO** emphasize “solve for yes”, collaborative approaches

**DON’T** use “I” exclusively or reinforce black hoodie hacker stereotypes
Objective indicators of success or aptitude for the role

**EXPERIENCE > CERTS / DEGREES**

**DO** link to anything that demonstrates what you *can do and accomplish*. Ex: prior work experience, Github repositories, websites, talks, papers, Bug Bounty

**DO** In interviews, focus on results and impact (not job responsibilities)

**DON’T** showcase degrees, certs, or classes as qualifications for the role. We do not require any degrees or certs for roles on the Security team @ Cloudflare
Well-rounded experiences
Builders
Creative problem solvers

**CAPTURE THE FLAG COMPS**

**DO** highlight regional / national accolades in respectable competitions

**DON’T** list participation in comps or showcase as “work” experience. This connotes shiny object syndrome

**OTHER EXPERIENCES**

**DO** seek out defensive / “blue team” experiences. Majority of roles on internal security teams are focused on responding, advising, and building
Q & A
How I got into Cybersecurity

With Zero Experience

Jennifer Bate
Associate Consulting Engineer – Infosec
CDW
June 17, 2020
About Me

• Current Role
  • As of March 30, 2020
  • Associate Consulting Engineer – Infosec for CDW
    • Pentester/Ethical Hacker

• Career Relauncher

• BSEE/USAF Veteran Officer

• Career Break to Raise a Family

• Decided to pivot Into IT
  • A+ to Repair Computers?
  • Networking Track at my Local CC (Net+, CCNA)
  • Took the Security + class as a “filler”
  • Capture The Flag: National CyberLeague, aka NCL
  • SANS Womens’ Immersion Scholarship 2019
    • GSEC, GCIH, GPEN
Cybersecurity Industry

- Broad Field
- Many Paths Into It
- Education/Certification/Experience
- [www.cyberseek.org](http://www.cyberseek.org)
  - Heat map of the US
  - Mind Map of jobs in the industry
- Podcasts
  - Getting Into Infosec
  - An Uncommon Journey
Education

Degree or Not to Degree
• BS Electrical Engineering
• Update with IT classes at Local CC
  • Basic OS
  • Basic Networking
  • Basic Security
  • Python, Linux
• Masters Degree?
• Udemy, Coursera, LinkedIn Learning

Certifications
• Comptia Net+, Sec+
• Cisco CCNA
• GIAC (GCSEC), GCIH, GPEN
Passion-Community

Security Club
• Join at your local cc or start one

Local Networking Groups
• ISSA/ISACA/OWASP
• Women In Cybersecurity (WiCys)
• Linkedin

Elevator Pitch

Know What it is That You Want (and don’t!)

Twitter – Learn from some interesting people

Capture the Flags- Good way to practice what you’ve learned

Podcasts (CyberWire, Braking Down Security, Darknet Diaries)
Job Search

Job Listings
- Indeed
- Google
- Make a list of local companies/job boards

Search Term
- Security Analyst, SOC Analyst, Security Engineer
- “Security”
- Names of my Certs

What is “negotiable” to me (and what is not)?
- Can I move
- Am I free to travel and how much?
- Am I willing to work odd hours or weekends
- Would I consider a “job with potential” (sys admin, help desk)
Job Application Process

• Do not apply unless you have the ‘Holy Grail’
  • “Req” aka Requisition Number
  • Internal Referral
  • Hiring Manager

• Focus on Quality, not Quantity

• Company website ➔ Job Req Number ➔ Personal Contact ➔ Internal Referral ➔ Hiring Manager
Interviewing

Phone Screen
• Be prepared for technical questions
• Print OSI Model/Port Numbers
• [https://danielmiessler.com/study/infosec_interview_questions/](https://danielmiessler.com/study/infosec_interview_questions/)

Job Interview
• Study like you are going to take a certification test
• OSINT the Company
• Reverse Engineer the job description
• Interview wherever you are invited (even a job you don’t want)

My Result - 4 Offers
• WiCys Event - Contact
• Classmate at Community College
• LinkedIn Contact
• Personal Friend

Backup Plan: Bug Bounties & a Blog
Fall down seven times, get up eight.

- Japanese Proverb
Q & A
Upcoming Webinar: *What’s New - Revisions to the NICE Framework*

**When:** Wednesday, July 15, 2020, at 2:00 p.m. EDT

**Register:** [https://nist-nice.adobeconnect.com/webinarjuly2020/event/registration.html](https://nist-nice.adobeconnect.com/webinarjuly2020/event/registration.html)