Jack Schumacher
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NCL Spring 2024 Individual Game Scouting Report

Dear Jack Schumacher,

Thank you for participating in the National Cyber League (NCL) Spring 2024 Season! Our goal is to prepare the next generation of cybersecurity professionals, and your participation is helping achieve that goal.

The NCL was founded in May 2011 to provide an ongoing virtual training ground for collegiate students to develop, practice, and validate their cybersecurity skills in preparation for further learning, industry certifications, and career readiness. The NCL scenario-based challenges were designed around performance-based exam objectives of CompTIA certifications and are aligned to the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework published by the National Institute of Standards and Technology (NIST).

As you look to a future career in cybersecurity, we hope you find this report to be valuable in both validating skills and identifying areas for improvement across the nine NCL skills categories. You can use this NCL Scouting Report to:

- Validate your skills to employers in any job application or professional portfolio;
- Show case your achievements and strengths by including the Score Card view of your performance as part of your résumé or simply sharing the validation link so that others may view the detailed version of this report.

The NCL Spring 2024 Season had 8,020 students/players and 584 faculty/coaches from more than 480 two- and four-year schools & 240 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from April 5 through April 7. The Team Game CTF event took place from April 19 through April 21. The games were conducted in real-time for students across the country.

NCL is powered by Cyber Skyline's cloud-based skills evaluation platform. Cyber Skyline hosted the scenario-driven cybersecurity challenges for players to compete and track their progress in real-time.

To validate this report, please access: cyberskyline.com/report/KQ18GHW6N74C

CompTIA

Based on the performance detailed in this NCL Scouting Report, you have earned **10 hours** of Continuing Education Units (CEUs) as approved by CompTIA. You can learn more about the NCL - CompTIA alignment via nationalcyberleague.org/partners.

Congratulations for your participation in the NCL Spring 2024 Individual Game! We hope you will continue to develop your knowledge and skills and make meaningful contributions as part of the Information Security workforce!

Dr. David Zeichick
NCL Commissioner

POWERED BY CYBER SKYLINE

NATIONAL CYBER LEAGUE SCORE CARD

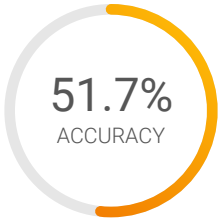
NCL SPRING 2024 INDIVIDUAL GAME

NATIONAL RANK
894TH PLACE OUT OF 7406

PERCENTILE
88TH

YOUR TOP CATEGORIES

WEB APPLICATION EXPLOITATION	LOG ANALYSIS	PASSWORD CRACKING
93RD PERCENTILE	91ST PERCENTILE	91ST PERCENTILE



Average: 67.4%

cyberskyline.com/report
ID: KQ18GHW6N74C

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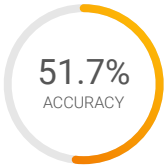
NCL Spring 2024 Individual Game

The NCL Individual Game is designed for student players nationwide to compete in realtime in the categories listed below. The Individual Game evaluates the technical cybersecurity skills of the individual, without the assistance of others.

894 TH PLACE OUT OF 7406
NATIONAL RANK

1440 POINTS OUT OF 3000
PERFORMANCE SCORE



88th National Percentile

Average: 948.1 Points

Average: 67.4%

Average: 37.5%

Cryptography

180 POINTS OUT OF 370

60.0% ACCURACY

COMPLETION: **42.9%**

Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

Enumeration & Exploitation

10 POINTS OUT OF 300

50.0% ACCURACY

COMPLETION: **20.0%**

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

Forensics

20 POINTS OUT OF 300

40.0% ACCURACY

COMPLETION: **25.0%**

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

Log Analysis

200 POINTS OUT OF 300

70.0% ACCURACY

COMPLETION: **82.4%**

Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

Network Traffic Analysis

135 POINTS OUT OF 300

23.7% ACCURACY

COMPLETION: **56.3%**

Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

Open Source Intelligence

330 POINTS OUT OF 430

61.3% ACCURACY

COMPLETION: **76.0%**

Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

Password Cracking

155 POINTS OUT OF 300

100.0% ACCURACY

COMPLETION: **53.8%**

Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

Scanning & Reconnaissance

110 POINTS OUT OF 300

33.3% ACCURACY

COMPLETION: **50.0%**

Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

Web Application Exploitation

200 POINTS OUT OF 300

57.1% ACCURACY

COMPLETION: **80.0%**

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

Note: Survey module (100 points) was excluded from this report.

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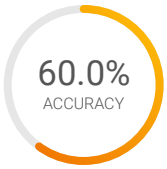
Cryptography Module

Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

2052 ND PLACE OUT OF 7406
NATIONAL RANK

180 POINTS OUT OF 370
PERFORMANCE SCORE



73rd National Percentile

Average: 184.5 Points

Average: 78.8%

Average: 57.6%

Bases (Easy)

30 POINTS OUT OF 40

60.0% ACCURACY

COMPLETION: 75.0%

Analyze and obtain the plaintext from messages encoded with common number bases

Ancient Cipher (Easy)

70 POINTS OUT OF 70

100.0% ACCURACY

COMPLETION: 100.0%

Analyze and obtain the plaintext for a message encrypted with the Atbash substitution cipher

Boxed In (Medium)

80 POINTS OUT OF 80

33.3% ACCURACY

COMPLETION: 100.0%

Analyze and obtain the plaintext for a message encrypted with a Box Cipher, a type of Transposition Cipher

Validation (Medium)

0 POINTS OUT OF 80

0.0% ACCURACY

COMPLETION: 0.0%

Analyze and decode a x509 certificate used for public key cryptography

Love's the AES (Hard)

0 POINTS OUT OF 100

0.0% ACCURACY

COMPLETION: 0.0%

Decrypt an AES-encrypted message by exploiting an insecure key generation method

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Enumeration & Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

2441 ST PLACE OUT OF 7406	10 POINTS OUT OF 300	50.0% ACCURACY	20.0% COMPLETION
NATIONAL RANK	PERFORMANCE SCORE	Average: 74.6%	Average: 44.9%
68th National Percentile	Average: 96.8 Points		

Key Check (Easy)	10 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 50.0%
Analyze Python source code to exploit an insecurely-stored secret that uses a rotating XOR cipher			
Cross Lock (Medium)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%
Analyze a DotNET executable written in C# using decompilation tools to find a hardcoded secret			
High Alert (Hard)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%
Analyze and exploit a buffer overflow vulnerability in a binary application			

Forensics Module

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

1539 TH PLACE OUT OF 7406	20 POINTS OUT OF 300	40.0% ACCURACY	25.0% COMPLETION
NATIONAL RANK	PERFORMANCE SCORE	Average: 49.6%	Average: 39.8%
80th National Percentile	Average: 102.5 Points		

Lost (Easy)	20 POINTS OUT OF 100	40.0% ACCURACY	COMPLETION: 66.7%
Utilize open-source forensics tools to extract a deleted JPEG image from an ext4 image			
Backdoor (Medium)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%
Perform a forensics analysis on a router's firmware image to investigate a backdoor			
Shuffled (Hard)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%
Analyze a PNG file and recalculate a CRC checksum to restore the file and retrieve lost information			

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Log Analysis Module

Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

683 RD PLACE OUT OF 7406
NATIONAL RANK

200 POINTS OUT OF 300
PERFORMANCE SCORE

70.0% ACCURACY

82.4% COMPLETION

91st National Percentile

Average: 123.4 Points

Average: 68.3%

Average: 48.4%

Entry (Easy)

100 POINTS OUT OF 100

75.0% ACCURACY

COMPLETION: 100.0%

Analyze a web access log to identify trends in traffic patterns

Places (Medium)

100 POINTS OUT OF 100

66.7% ACCURACY

COMPLETION: 100.0%

Analyze a SQLite database containing Internet browsing history to create a timeline of user actions

Buffed (Hard)

0 POINTS OUT OF 100

0.0% ACCURACY

COMPLETION: 0.0%

Parse a log of protobuf messages to extract key information

Network Traffic Analysis Module

Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

1106 TH PLACE OUT OF 7406
NATIONAL RANK

135 POINTS OUT OF 300
PERFORMANCE SCORE

23.7% ACCURACY

56.3% COMPLETION

86th National Percentile

Average: 138.2 Points

Average: 54.3%

Average: 53.3%

Shell (Easy)

95 POINTS OUT OF 100

33.3% ACCURACY

COMPLETION: 100.0%

Analyze network traffic on a compromised Telnet server to create an investigative report

Missing (Medium)

40 POINTS OUT OF 100

15.0% ACCURACY

COMPLETION: 75.0%

Identify and extract sensitive information that was exfiltrated from a computer network using UDP

Route (Hard)

0 POINTS OUT OF 100

0.0% ACCURACY

COMPLETION: 0.0%

Analyze a packet capture of routers exchanging OSPF information to create a report on the configuration of the network

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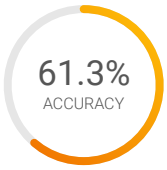
Open Source Intelligence Module

Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

864 TH PLACE OUT OF 7406
NATIONAL RANK

330 POINTS OUT OF 430
PERFORMANCE SCORE



89th National Percentile

Average: 246.9 Points

Average: 67.9%

Average: 60.9%

Rules of Conduct (Easy)

30 POINTS OUT OF 30

100.0% ACCURACY

COMPLETION: 100.0%

Introductory challenge on acceptable conduct during NCL

Guess Who (Easy)

100 POINTS OUT OF 100

62.5% ACCURACY

COMPLETION: 100.0%

Identify and use basic OSINT tools to find public information of a given IP

Exit Node (Easy)

100 POINTS OUT OF 100

50.0% ACCURACY

COMPLETION: 100.0%

Search online databases to gather information on a Tor Exit Node

Stuck on The Net (Medium)

100 POINTS OUT OF 100

71.4% ACCURACY

COMPLETION: 100.0%

Utilize the Wayback Internet Archive Machine to view old data that is no longer available on the Internet

Plane (Hard)

0 POINTS OUT OF 100

0.0% ACCURACY

COMPLETION: 0.0%

Use publicly available open source tools to analyze the flight patterns of planes

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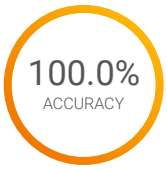
Password Cracking Module

Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

722 ND PLACE OUT OF 7406
NATIONAL RANK

155 POINTS OUT OF 300
PERFORMANCE SCORE



91st National Percentile

Average: 91.5 Points

Average: 88.0%

Average: 38.1%

Hashing (Easy) Generate password hashes for MD5, SHA1, and SHA256	15 POINTS OUT OF 15	100.0% ACCURACY	COMPLETION: 100.0%
Rockyou (Easy) Crack MD5 password hashes for password found in the rockyou breach	15 POINTS OUT OF 15	100.0% ACCURACY	COMPLETION: 100.0%
Windows (Easy) Crack Windows NTLM password hashes using rainbow tables	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Pattern (Medium) Build a wordlist or pattern rule to crack password hashes of a known pattern	45 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION: 100.0%
PDF (Medium) Crack the insecure password for a protected PDF file	50 POINTS OUT OF 50	100.0% ACCURACY	COMPLETION: 100.0%
Wordlist (Hard) Build a wordlist to crack passwords not found in common wordlists	0 POINTS OUT OF 75	0.0% ACCURACY	COMPLETION: 0.0%
Complexity (Hard) Build a custom wordlist to crack passwords by augmenting permutation rules using known password complexity requirements	0 POINTS OUT OF 70	0.0% ACCURACY	COMPLETION: 0.0%

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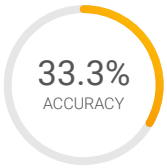
Scanning & Reconnaissance Module

Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

1351 ST PLACE OUT OF 7406
NATIONAL RANK

110 POINTS OUT OF 300
PERFORMANCE SCORE



82nd National Percentile

Average: 136.9 Points

Average: 66.6%

Average: 50.5%

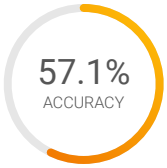
Port Scan (Easy)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Perform a port scan and identify services running on a remote host			
Foreign (Medium)	10 POINTS OUT OF 100	12.5% ACCURACY	COMPLETION: 40.0%
Conduct reconnaissance on a server to identify details regarding its timezone and locale			
Snail Mail (Hard)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%
Scan an email server to enumerate user accounts			

Web Application Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

536 TH PLACE OUT OF 7406
NATIONAL RANK

200 POINTS OUT OF 300
PERFORMANCE SCORE



93rd National Percentile

Average: 108.2 Points

Average: 53.3%

Average: 46.1%

PiratePals (Easy)	100 POINTS OUT OF 100	50.0% ACCURACY	COMPLETION: 100.0%
Analyze the source code of a web application and craft an HTTP request to conduct a malicious payload attack on the web server			
Pierre's Store (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Perform a replay attack on a web application by using a HAR file to craft a web request			
Valley Directory (Hard)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%
Analyze a web application and exploit a session puzzling vulnerability in a web application to gain unauthorized access			