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CYBER SKYLINE

The National Cyber League
A Community Where Cybersecurity Is a Passion

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NCL Spring 2024 Team Game Scouting Report

Dear Jacob Suveges (Team "Pugnacious"),

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. You were in the Experienced Students Bracket, consisting of students enrolled in advanced degrees or hold extensive industry working experience.

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/56MT93Y5RCHR

Congratulations for your participation in the NCL Spring 2024 Team 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



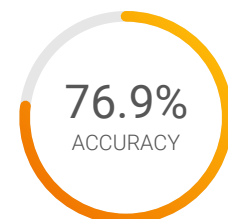
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**EXPERIENCED
STUDENTS RANK
66TH PLACE
OUT OF 386
PERCENTILE
83RD**

NATIONAL CYBER LEAGUE SCORE CARD

NCL SPRING 2024 TEAM GAME

YOUR TOP CATEGORIES



Average: 74.5%

cyberskyline.com/report/56MT93Y5RCHR

Learn more at nationalcyberleague.org

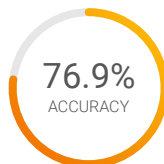


NCL Spring 2024 Team Game

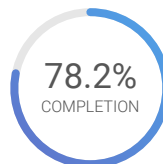
The NCL Team Game is designed for student players nationwide to compete in realtime in the categories listed below. The Team Game promotes camaraderie and evaluates the collective technical cybersecurity skills of the team members.

66TH PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

2395 POINTS
OUT OF 3000
PERFORMANCE SCORE



Average: 74.5%



Average: 64.2%

83rd Experienced Students
Percentile

Average: 1821.5 Points

Cryptography

245 POINTS
OUT OF 345

90.9%
ACCURACY

COMPLETION: **90.9%**

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

Enumeration & Exploitation

210 POINTS
OUT OF 300

100.0%
ACCURACY

COMPLETION: **87.5%**

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

Forensics

300 POINTS
OUT OF 300

100.0%
ACCURACY

COMPLETION: **100.0%**

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

Log Analysis

415 POINTS
OUT OF 415

65.4%
ACCURACY

COMPLETION: **100.0%**

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

210 POINTS
OUT OF 300

60.0%
ACCURACY

COMPLETION: **70.6%**

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

Open Source Intelligence

325 POINTS
OUT OF 325

92.3%
ACCURACY

COMPLETION: **100.0%**

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

190 POINTS
OUT OF 300

100.0%
ACCURACY

COMPLETION: **57.7%**

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

Scanning & Reconnaissance

200 POINTS
OUT OF 300

60.0%
ACCURACY

COMPLETION: **64.3%**

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 315

66.7%
ACCURACY

COMPLETION: **66.7%**

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.



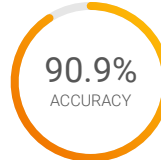


Cryptography Module

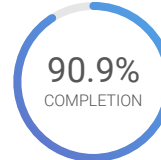
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

33 RD PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

245 POINTS
OUT OF 345
PERFORMANCE SCORE



Average: 81.4%



Average: 76.2%

92nd Experienced Students
Percentile

Average: 179.9 Points

Decoding 1 (Easy)

45 POINTS
OUT OF 45

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze and obtain plaintext from messages encrypted with a shift cipher

Decoding 2 (Easy)

50 POINTS
OUT OF 50

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze and obtain plaintext from messages encoded with common number bases

Decoding 3 (Medium)

50 POINTS
OUT OF 50

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze and obtain plaintext from messages encrypted with the Rail Fence transposition cipher

Secure Communication (Medium)

100 POINTS
OUT OF 100

50.0%
ACCURACY

COMPLETION: **100.0%**

Decrypt and encrypt PGP messages using the provided public and private keys

Message (Hard)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Analyze and decode a message by using frequency analysis



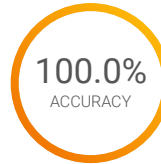


Enumeration & Exploitation Module

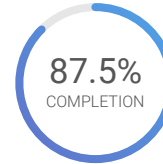
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

42 ND PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

210 POINTS
OUT OF 300
PERFORMANCE SCORE



Average: 81.2%



Average: 76.5%

90th Experienced Students
Percentile

Average: 178.6 Points

Gopher (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze Go source code to exploit an insecurely-stored secret that uses an XOR cipher

Drop (Medium)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze a sample of malware written in Powershell to identify its behavior

Playground (Hard)

10 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **50.0%**

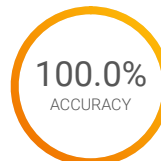
Exploit a binary program by using ROP gadgets and stack pivoting to gain command execution

Forensics Module

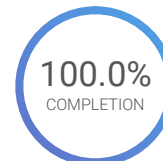
Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

10 TH PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

300 POINTS
OUT OF 300
PERFORMANCE SCORE



Average: 82.7%



Average: 74.0%

98th Experienced Students
Percentile

Average: 200.9 Points

Filesystem (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze a filesystem image and utilize forensic tools to extract a sensitive file

Word (Medium)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Extract hidden data from Word documents and reassemble the data to form a viewable image

Analog (Hard)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Recover an image by programmatically converting raw VGA voltages to RGB pixel values





Log Analysis Module

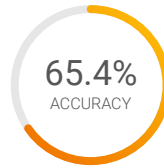
Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

67TH PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

415 POINTS
OUT OF 415
PERFORMANCE SCORE

83RD Experienced Students
Percentile

Average: 318.5 Points



Average: 61.9%



Average: 79.7%

Secure Shell (Easy)

100 POINTS
OUT OF 100

45.5%
ACCURACY

COMPLETION: **100.0%**

Analyze a SSH server log to identify compromise attempts from threat actors

NASA Servers (Medium)

145 POINTS
OUT OF 145

80.0%
ACCURACY

COMPLETION: **100.0%**

Analyze a web server log and identify traffic patterns

Employee Access (Hard)

170 POINTS
OUT OF 170

80.0%
ACCURACY

COMPLETION: **100.0%**

Analyze data transfer logs to find anomalies and identify an insider threat

Network Traffic Analysis Module

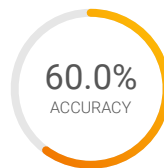
Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

97TH PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

210 POINTS
OUT OF 300
PERFORMANCE SCORE

75TH Experienced Students
Percentile

Average: 219.5 Points



Average: 73.8%



Average: 73.1%

Announcement (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze a network packet capture of SSDP traffic to identify devices on a network

Wire (Medium)

100 POINTS
OUT OF 100

83.3%
ACCURACY

COMPLETION: **100.0%**

Dissect the raw binary of an ARP packet

Kickback (Hard)

10 POINTS
OUT OF 100

12.5%
ACCURACY

COMPLETION: **16.7%**

Analyze the raw data from an IR remote capture to identify the behavior that occurred



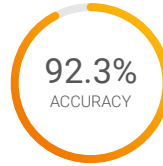


Open Source Intelligence Module

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

79TH PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

325 POINTS
OUT OF 325
PERFORMANCE SCORE



Average: 84.6%



Average: 93.5%

80th Experienced Students
Percentile

Average: 288.8 Points

Rules of Conduct (Easy)

25 POINTS
OUT OF 25

83.3%
ACCURACY

COMPLETION: 100.0%

Introductory challenge on acceptable conduct during NCL

Lucky Charms (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: 100.0%

Locate a physical location by performing conversions between different coordinate systems

Hidden in Plain Sight (Medium)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: 100.0%

Utilize open source tools to identify and decode a message encoded using an esoteric language

Lost (Hard)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: 100.0%

Utilize open source tools to perform an analysis on a slightly redacted photo and geolocate the subject of the image



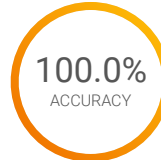


Password Cracking Module

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

73 RD PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

190 POINTS
OUT OF 300
PERFORMANCE SCORE



Average: 91.3%



Average: 49.6%

82nd Experienced Students
Percentile

Average: 161.6 Points

Hashing (Easy)

30 POINTS
OUT OF 30

100.0%
ACCURACY

COMPLETION: **100.0%**

Generate password hashes for MD4, MD5, SHA512

Rockyou (Easy)

45 POINTS
OUT OF 45

100.0%
ACCURACY

COMPLETION: **100.0%**

Crack SHA1 password hashes for password found in the rockyou breach

Defaults (Medium)

40 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **40.0%**

Build a custom wordlist to crack passwords not found in common wordlists

DOCX (Medium)

45 POINTS
OUT OF 45

100.0%
ACCURACY

COMPLETION: **100.0%**

Crack the password for a protected Microsoft Word file

Fantasy (Hard)

30 POINTS
OUT OF 80

100.0%
ACCURACY

COMPLETION: **37.5%**

Build a custom wordlist to crack passwords not found in common wordlists and augment with rules for special characters



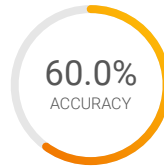


Scanning & Reconnaissance Module

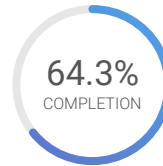
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

88 TH PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

200 POINTS
OUT OF 300
PERFORMANCE SCORE



Average: 76.4%



Average: 69.6%

78th Experienced Students
Percentile

Average: 205.3 Points

Blocked (Easy)

100 POINTS
OUT OF 100

55.6%
ACCURACY

COMPLETION: **100.0%**

Conduct reconnaissance on a server by identifying blocked IPs and ports

Scan (Medium)

100 POINTS
OUT OF 100

80.0%
ACCURACY

COMPLETION: **100.0%**

Perform a UDP port scan and identify services running on a remote host

Paper (Hard)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

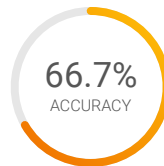
Conduct reconnaissance on an LDAP server to identify the users within an organization

Web Application Exploitation Module

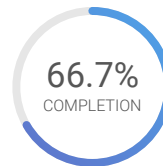
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

59 TH PLACE
OUT OF 386
EXPERIENCED STUDENTS RANK

200 POINTS
OUT OF 315
PERFORMANCE SCORE



Average: 65.1%



Average: 47.6%

85th Experienced Students
Percentile

Average: 132.9 Points

Jojamart (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Identify and exploit a SQL injection vulnerability to gain unauthorized access to sensitive data

Records (Medium)

100 POINTS
OUT OF 100

66.7%
ACCURACY

COMPLETION: **100.0%**

Conduct an automated attack to crawl a web server and obtain sensitive information

File Share (Hard)

0 POINTS
OUT OF 115

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify and exploit a NoSQL injection vulnerability to gain unauthorized access to a web server database

