



POWERED BY
CYBER SKYLINE

The National Cyber League
A Community Where Cybersecurity Is a Passion

Thaddeus Thomas
thaddeus.r.thomas@gmail.com

NCL Fall 2022 Team Game Scouting Report

Dear Thaddeus Thomas (Team "Shout IT Out Cloud"),

Thank you for participating in the National Cyber League (NCL) 2022 Fall 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 2022 Fall Season had 7,690 students/players and 475 faculty/coaches from more than 470 two- and four-year schools & 250 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from October 21 through October 23. The Team Game CTF event took place from November 4 through November 6. 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/7L673LF6F3T4

Congratulations for your participation in the NCL 2022 Fall Team Game! We hope you will continue to develop your knowledge and skills and make meaningful contributions as part of the Information Security workforce!

David Zeichick
NCL Commissioner



POWERED BY
CYBER SKYLINE

NATIONAL CYBER LEAGUE SCORE CARD

NCL 2022 FALL TEAM GAME

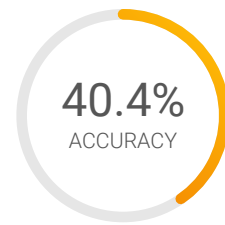
YOUR TOP CATEGORIES

ENUMERATION &
EXPLOITATION
99TH PERCENTILE

OPEN SOURCE
INTELLIGENCE
98TH PERCENTILE

CRYPTOGRAPHY
98TH PERCENTILE

NATIONAL RANK
110TH PLACE
OUT OF 3926
PERCENTILE
98TH



Average: 49.6%

[cyberskyline.com/report](https://cyberskyline.com/report/7L673LF6F3T4)
ID: 7L673LF6F3T4



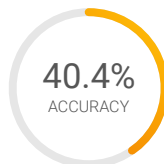
NCL Fall 2022 Team Game

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.

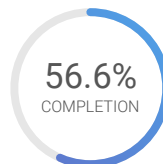
110TH PLACE
OUT OF 3926
NATIONAL RANK

1410 POINTS
OUT OF 3000
PERFORMANCE SCORE

Average: 649.5 Points



Average: 49.6%



Average: 28.8%

98th National
Percentile

Cryptography

190 POINTS
OUT OF 310

50.0%
ACCURACY

COMPLETION: 75.0%

Information is key, but it's not going to be easy to get it. Decipher these hidden messages to learn what is really going on.

Enumeration & Exploitation

115 POINTS
OUT OF 300

100.0%
ACCURACY

COMPLETION: 50.0%

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

Forensics

160 POINTS
OUT OF 310

50.0%
ACCURACY

COMPLETION: 50.0%

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

Log Analysis

50 POINTS
OUT OF 320

8.0%
ACCURACY

COMPLETION: 23.5%

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 370

54.8%
ACCURACY

COMPLETION: 81.0%

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

Open Source Intelligence

270 POINTS
OUT OF 315

72.2%
ACCURACY

COMPLETION: 81.3%

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

205 POINTS
OUT OF 360

100.0%
ACCURACY

COMPLETION: 65.0%

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

Scanning & Reconnaissance

10 POINTS
OUT OF 315

4.3%
ACCURACY

COMPLETION: 7.7%

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

Web Application Exploitation

100 POINTS
OUT OF 300

75.0%
ACCURACY

COMPLETION: 50.0%

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.





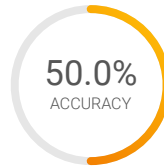
Cryptography Module

Information is key, but it's not going to be easy to get it. Decipher these hidden messages to learn what is really going on.

88TH PLACE
OUT OF 3926
NATIONAL RANK

190 POINTS
OUT OF 310
PERFORMANCE SCORE

Average: 119.3 Points



Average: 78.6%



Average: 54.1%

TOP NICE WORKROLES

Security Control Assessor
Secure Software Assessor
Exploitation Analyst
Cyber Operator
Security Architect

98th National
Percentile

Decoding 1 (Easy)

Identify the cipher scheme used and decrypt the data

30 POINTS
OUT OF 30

100.0%
ACCURACY

COMPLETION: **100.0%**

Decoding 2 (Easy)

Identify the cipher scheme used and decrypt the data

20 POINTS
OUT OF 20

50.0%
ACCURACY

COMPLETION: **100.0%**

Decoding 3 (Easy)

Identify the cipher scheme used and decrypt the data

35 POINTS
OUT OF 35

100.0%
ACCURACY

COMPLETION: **100.0%**

Decoding 4 (Medium)

Identify the communication scheme used and decode the message

20 POINTS
OUT OF 20

50.0%
ACCURACY

COMPLETION: **100.0%**

Decoding 5 (Medium)

Identify the cipher scheme used and decrypt the data

35 POINTS
OUT OF 55

25.0%
ACCURACY

COMPLETION: **66.7%**

Problem (Medium)

Identify the steganography technique used and extract the hidden data

50 POINTS
OUT OF 50

50.0%
ACCURACY

COMPLETION: **100.0%**

Magnetic (Hard)

Convert credit card magnetic stripe audio into numeric data

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**





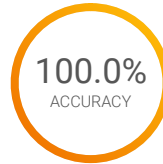
Enumeration & Exploitation Module

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

75TH PLACE
OUT OF 3926
NATIONAL RANK

115 POINTS
OUT OF 300
PERFORMANCE SCORE

Average: 52.0 Points



Average: 51.7%



Average: 27.7%

TOP NICE WORKROLES

Cyber Operator
Target Developer
Exploitation Analyst
Software Developer
Systems Security Analyst

99th National
Percentile

Channels (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze Go source code to identify its functionalities and vulnerabilities

Miner (Medium)

15 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **50.0%**

Decompile a binary crypto-miner malware to identify its functionalities

Password Manager (Hard)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Decompile and analyze a binary that implements a virtual machine (VM) for a custom instruction set architecture (ISA) and break the encryption to a custom password manager program

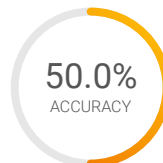
Forensics Module

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

99TH PLACE
OUT OF 3926
NATIONAL RANK

160 POINTS
OUT OF 310
PERFORMANCE SCORE

Average: 106.1 Points



Average: 57.8%



Average: 26.7%

TOP NICE WORKROLES

Cyber Defense Forensics
Analyst
Cyber Crime Investigator
Cyber Defense Incident
Responder
Cyber Defense Analyst

98th National
Percentile

Blocked (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Analyze a redacted PDF file to identify techniques to remove the redaction

Hiding (Medium)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the compressed data stream without header metadata

Unknown (Hard)

60 POINTS
OUT OF 110

44.4%
ACCURACY

COMPLETION: **50.0%**

Analyze a ZFS pool to extract hidden files and metadata





Log Analysis Module

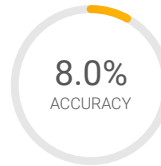
Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

282 ND PLACE
OUT OF 3926
NATIONAL RANK

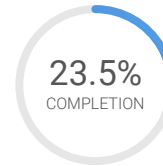
93rd National
Percentile

50 POINTS
OUT OF 320
PERFORMANCE SCORE

Average: 63.6 Points



Average: 26.9%



Average: 23.6%

TOP NICE WORKROLES

Cyber Defense Analyst
Systems Security Analyst
All-Source Analyst
Cyber Defense Forensics
Analyst
Data Analyst

Cubes (Easy)

50 POINTS
OUT OF 100

9.5%
ACCURACY

COMPLETION: 57.1%

Analyze a DNS server log to identify potentially malicious domains

Lunch (Medium)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: 0.0%

Analyze a web server log using MessagePack encoding and identify anomalies

Collection (Hard)

0 POINTS
OUT OF 120

0.0%
ACCURACY

COMPLETION: 0.0%

Analyze employee badge and motion sensor logs to compute outliers and identify anomalous behavior

Network Traffic Analysis Module

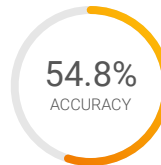
Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

139 TH PLACE
OUT OF 3926
NATIONAL RANK

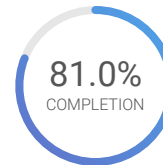
97th National
Percentile

210 POINTS
OUT OF 370
PERFORMANCE SCORE

Average: 111.9 Points



Average: 41.6%



Average: 46.4%

TOP NICE WORKROLES

Cyber Defense Analyst
All-Source Analyst
Cyber Defense Incident
Responder
Target Network Analyst
Cyber Operator

VPN (Easy)

60 POINTS
OUT OF 100

35.0%
ACCURACY

COMPLETION: 77.8%

Extract sensitive information transferred in a VPN packet capture

WiFi Cracking (Medium)

30 POINTS
OUT OF 70

75.0%
ACCURACY

COMPLETION: 75.0%

Identify vulnerable WiFi encryption scheme and crack the WiFi password

Kick Back (Medium)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: 100.0%

Analyze the unencrypted IOT device traffic to extract personal information from a smart home packet capture

Extraction (Hard)

20 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: 66.7%

Identify and extract the hidden RTMP video stream transferred in a comprehensive packet capture





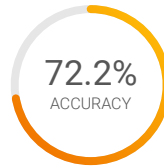
Open Source Intelligence Module

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

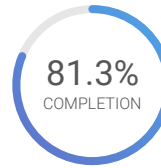
85TH PLACE
OUT OF 3926
NATIONAL RANK

270 POINTS
OUT OF 315
PERFORMANCE SCORE

Average: 150.0 Points



Average: 49.7%



Average: 65.4%

TOP NICE WORKROLES

Systems Security Analyst
Target Developer
System Administrator
Research & Development
Specialist
Cyber Intel Planner

Rules of Conduct (Easy)

25 POINTS
OUT OF 25

83.3%
ACCURACY

COMPLETION: **100.0%**

Introductory challenge on acceptable conduct during NCL

Defense Acquisition (Easy)

45 POINTS
OUT OF 45

50.0%
ACCURACY

COMPLETION: **100.0%**

Identify the common organizations responsible for purchases for the government

Vehicle (Easy)

50 POINTS
OUT OF 50

100.0%
ACCURACY

COMPLETION: **100.0%**

Utilize reverse image search tools to identify the make and model of a vehicle

Targets (Medium)

0 POINTS
OUT OF 45

0.0%
ACCURACY

COMPLETION: **0.0%**

Investigate an unknown number scheme to identify the IP address associated with the number

District (Medium)

50 POINTS
OUT OF 50

75.0%
ACCURACY

COMPLETION: **100.0%**

Utilize Geographic Information System (GIS) to identify land plot and owner data

Tracking (Hard)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Investigate commonalities in the locations from a sequence of GPS coordinates to identify the potential next target location



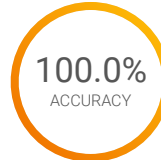


Password Cracking Module

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

142 ND PLACE
OUT OF 3926
NATIONAL RANK

205 POINTS
OUT OF 360
PERFORMANCE SCORE



Average: 87.0%



Average: 39.5%

TOP NICE WORKROLES

Cyber Operator
Exploitation Analyst
Systems Security Analyst
Cyber Defense Incident
Responder
Cyber Crime Investigator

97th National
Percentile

Average: 123.5 Points

Cracking 1 (Easy)

Crack MD5, SHA1, and SHA256 password hashes

45 POINTS
OUT OF 45

100.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 2 (Easy)

Crack Windows NTLM password hashes using rainbow tables

45 POINTS
OUT OF 45

100.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 3 (Medium)

Build a wordlist or pattern config to crack password hashes of a known pattern

60 POINTS
OUT OF 60

100.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 4 (Hard)

Build a wordlist to crack passwords not found in common wordlists

55 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **66.7%**

PPTX (Medium)

Crack the password for a protected PowerPoint file

0 POINTS
OUT OF 50

0.0%
ACCURACY

COMPLETION: **0.0%**

WiFi (Hard)

Crack the password hashes stored in a Linux wpa_supplicant.conf file

0 POINTS
OUT OF 60

0.0%
ACCURACY

COMPLETION: **0.0%**





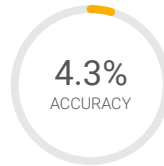
Scanning & Reconnaissance Module

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

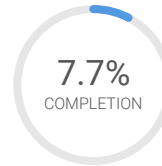
202 ND PLACE
OUT OF 3926
NATIONAL RANK

10 POINTS
OUT OF 315
PERFORMANCE SCORE

Average: 33.4 Points



Average: 19.0%



Average: 9.3%

TOP NICE WORKROLES

Vulnerability Assessment Analyst
Target Network Analyst
Cyber Operations Planner
Target Developer
Security Control Assessor

95th National
Percentile

Catch Me If You Can (Easy)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Scan the available UDP ports on a target system

Interstellar (Medium)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Scan an InterPlanetary File System (IPFS) server and retrieve a file from the service

Tracker (Hard)

10 POINTS
OUT OF 115

100.0%
ACCURACY

COMPLETION: **12.5%**

Scan and analyze the results from an UDP BitTorrent Tracker service

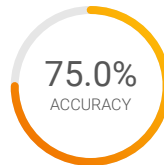
Web Application Exploitation Module

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

162 ND PLACE
OUT OF 3926
NATIONAL RANK

100 POINTS
OUT OF 300
PERFORMANCE SCORE

Average: 59.4 Points



Average: 38.0%



Average: 29.5%

TOP NICE WORKROLES

Cyber Operator
Software Developer
Exploitation Analyst
Systems Security Analyst
Database Administrator

96th National
Percentile

Ticket Scalper (Easy)

100 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **100.0%**

Exploit a ticket booking app by analyzing the partial logic in the browser side JavaScript code

Pesto's Pizza (Medium)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify and exploit a PHP type juggling vulnerability to gain unauthorized access

Mercury Lotto (Hard)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify and exploit a seeded random number generator by analyzing the deterministic server behavior

