NCL Spring 2022 Individual Game Scouting Report

Dear Nicolas Michel,

Thank you for participating in the National Cyber League (NCL) 2022 Spring 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 Spring Season had 6,610 students/players and 467 faculty/coaches from more than 500 two- and four-year schools & 80 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from April 8 through April 10. The Team Game CTF event took place from April 22 through April 24. 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/GH442XPW7N1R

Based on the the performance detailed in this NCL Scouting Report, you have earned **12 hours** of Continuing Education Units (CEUs) as approved by CompTIA. You can learn more about the NCL - CompTIA alignment via nationalcyberleague.org/comptia.

Congratulations for your participation in the NCL 2022 Spring Individual 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

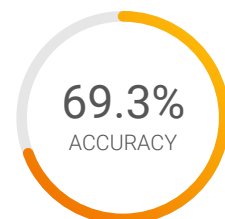## NATIONAL CYBER LEAGUE SCORE CARD

NCL 2022 SPRING INDIVIDUAL GAME

YOUR TOP CATEGORIES

NATIONAL RANK
412TH PLACE OUT OF 6010
PERCENTILE
94TH

WEB APPLICATION EXPLOITATION
99TH PERCENTILE

FORENSICS
97TH PERCENTILE

ENUMERATION & EXPLOITATION
96TH PERCENTILE

69.3%
ACCURACY
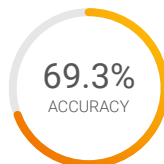
Average: 65.7%

cyberskyline.com/report
ID: GH442XPW7N1R

NCL Spring 2022 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.

412 TH PLACE
OUT OF **6010**
NATIONAL RANK

94 th National Percentile

1525 POINTS
OUT OF 3000
PERFORMANCE SCORE

Average: 730.1 Points

69.3% ACCURACY

Average: 65.7%
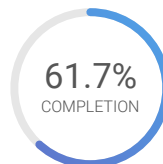
61.7% COMPLETION

Average: 33.5%

Cryptography
125 POINTS OUT OF 345   **100.0%** ACCURACY   COMPLETION: **50.0%**

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

Enumeration & Exploitation
210 POINTS OUT OF 320   **70.0%** ACCURACY   COMPLETION: **77.8%**

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

Forensics
150 POINTS OUT OF 300   **41.7%** ACCURACY   COMPLETION: **62.5%**

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

Log Analysis
170 POINTS OUT OF 340   **55.0%** ACCURACY   COMPLETION: **64.7%**

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
70 POINTS OUT OF 360   **46.2%** ACCURACY   COMPLETION: **28.6%**

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

Open Source Intelligence
210 POINTS OUT OF 300   **76.5%** ACCURACY   COMPLETION: **86.7%**

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 310   **85.7%** ACCURACY   COMPLETION: **85.7%**

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

Scanning & Reconnaissance
85 POINTS OUT OF 300   **100.0%** ACCURACY   COMPLETION: **28.6%**

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 325   **77.8%** ACCURACY   COMPLETION: **87.5%**

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

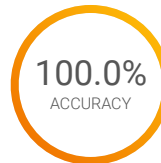Note: Survey module (100 points) was excluded from this report.

Cryptography Module

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

1167 TH PLACE OUT OF **6010**
NATIONAL RANK

81 st National Percentile

125 POINTS OUT OF 345
PERFORMANCE SCORE

Average: 111.7 Points

100.0%
ACCURACY

Average: 85.3%

50.0%
COMPLETION

Average: 50.1%

TOP NICE WORKROLES

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

Decoding 1 (Easy)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%

Identify the type of base encoding used and decode the data

Decoding 2 (Easy)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%

Identify the encoding scheme used and decode the data

Decoding 3 (Medium)	0 POINTS OUT OF 35	0.0% ACCURACY	COMPLETION: 0.0%

Identify the encoding scheme used and decode the data

Decoding 4 (Medium)	0 POINTS OUT OF 40	0.0% ACCURACY	COMPLETION: 0.0%

Identify the cipher scheme used and decrypt the data

Decoding 5 (Medium)	25 POINTS OUT OF 40	100.0% ACCURACY	COMPLETION: 100.0%

Identify the communication scheme used and decode the message

Decoding 6 (Hard)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%

Identify the communication scheme used and decode the message

Stego 1 (Easy)	35 POINTS OUT OF 35	100.0% ACCURACY	COMPLETION: 100.0%

Identify the steganography technique used and extract the hidden data

Stego 2 (Medium)	10 POINTS OUT OF 40	100.0% ACCURACY	COMPLETION: 50.0%

Identify the steganography technique used and extract the hidden data

Enumeration & Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.
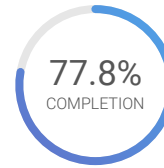
264 TH PLACE OUT OF **6010**
NATIONAL RANK

96th National Percentile

210 POINTS OUT OF 320
PERFORMANCE SCORE

Average: 83.8 Points

70.0% ACCURACY

Average: 60.7%

77.8% COMPLETION
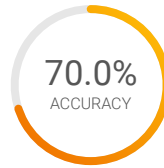
Average: 36.8%

TOP NICE WORKROLES
Cyber Operator
Target Developer
Exploitation Analyst
Software Developer
Systems Security Analyst

Validator (Easy)
Decompile and analyze Java bytecode

100 POINTS OUT OF 100 | **66.7%** ACCURACY | COMPLETION: **100.0%**

Blocky (Medium)
Disassemble and analyze a malicious Chrome browser extension

110 POINTS OUT OF 110 | **75.0%** ACCURACY | COMPLETION: **100.0%**

Exploit (Hard)
Analyze a remote Linux server for vulnerabilities and demonstrate proof of concept exploit

**0** POINTS OUT OF 110 | **0.0%** ACCURACY | COMPLETION: **0.0%**

Forensics Module

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.
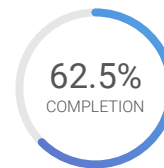
240 TH PLACE OUT OF **6010**
NATIONAL RANK

97th National Percentile

150 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 70.1 Points

41.7% ACCURACY

Average: 57.4%

62.5% COMPLETION
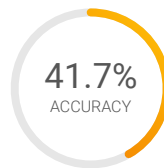
Average: 37.6%

TOP NICE WORKROLES
Cyber Defense Forensics Analyst
Cyber Crime Investigator
Cyber Defense Incident Responder
Cyber Defense Analyst

Archived (Easy)
Extract hidden metadata information from a tar archive file

70 POINTS OUT OF 100 | **50.0%** ACCURACY | COMPLETION: **75.0%**

Puzzle (Medium)
Identify overlapping byte segments to reconstruct a multi-part file

50 POINTS OUT OF 100 | **33.3%** ACCURACY | COMPLETION: **50.0%**

Hacker Flyer (Hard)
Extract sensitive data from a Windows memory dump

30 POINTS OUT OF 100 | **33.3%** ACCURACY | COMPLETION: **50.0%**

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A Community Where Cybersecurity Is a Passion
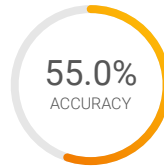
Nicolas Michel
nicolas.michel@uconn.edu

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.
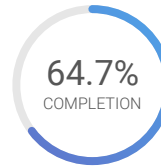
751 ST PLACE OUT OF **6010**
NATIONAL RANK

88th National Percentile

170 POINTS OUT OF 340
PERFORMANCE SCORE

Average: 122.7 Points

55.0% ACCURACY

Average: 42.8%

64.7% COMPLETION

Average: 41.3%

TOP NICE WORKROLES
Cyber Defense Analyst
Systems Security Analyst
All-Source Analyst
Cyber Defense Forensics Analyst
Data Analyst

IIS (Easy)
50 POINTS OUT OF 110 — **30.0%** ACCURACY — COMPLETION: **50.0%**

Analyze a Windows IIS web server log to identify attacker scanning activity

Devices (Medium)
80 POINTS OUT OF 110 — **100.0%** ACCURACY — COMPLETION: **83.3%**

Analyze an IOT sensors log to identify anomalous behavior

Email (Hard)
40 POINTS OUT OF 120 — **60.0%** ACCURACY — COMPLETION: **60.0%**

Analyze email logs to identify phishing attempts and suspicious email senders

Network Traffic Analysis Module

Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.
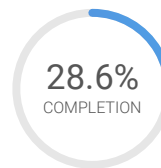
1187 TH PLACE OUT OF **6010**
NATIONAL RANK

81st National Percentile

70 POINTS OUT OF 360
PERFORMANCE SCORE

Average: 102.3 Points

46.2% ACCURACY
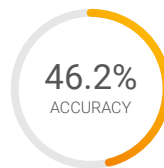
Average: 52.5%

28.6% COMPLETION

Average: 37.5%

TOP NICE WORKROLES
Cyber Defense Analyst
All-Source Analyst
Cyber Defense Incident Responder
Target Network Analyst
Cyber Operator

Transfer (Easy)
55 POINTS OUT OF 90 — **55.6%** ACCURACY — COMPLETION: **71.4%**

Extract sensitive information from a FTP packet capture

WiFi Cracking (Medium)
0 POINTS OUT OF 70 — **0.0%** ACCURACY — COMPLETION: **0.0%**

Identify vulnerable WiFi encryption scheme and crack the WiFi password

Kryptonite (Medium)
15 POINTS OUT OF 80 — **25.0%** ACCURACY — COMPLETION: **25.0%**

Decrypt and analyze an intercepted TLS packet capture

AirKeys (Hard)
0 POINTS OUT OF 120 — **0.0%** ACCURACY — COMPLETION: **0.0%**

Analyze Bluetooth keyboard connection and reconstruct keystrokes to extract credential information

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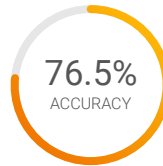
Open Source Intelligence Module

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

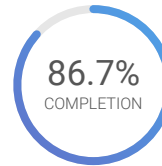**818** TH PLACE OUT OF **6010**
NATIONAL RANK

87th National Percentile

210 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 187.7 Points

76.5% ACCURACY

Average: 71.0%

86.7% COMPLETION

Average: 77.4%

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

Rules of Conduct (Easy)	15 POINTS OUT OF 15	100.0% ACCURACY	COMPLETION:	100.0%
Introductory challenge on acceptable conduct during NCL				
Whois (Easy)	60 POINTS OUT OF 60	100.0% ACCURACY	COMPLETION:	100.0%
Explore whois registration information on IP addresses				
Filings (Easy)	50 POINTS OUT OF 50	75.0% ACCURACY	COMPLETION:	100.0%
Identify common regulatory filings required in the cybersecurity industry				
Tor (Medium)	75 POINTS OUT OF 75	60.0% ACCURACY	COMPLETION:	100.0%
Identify metadata and affiliation information about Tor relay nodes				
Caller ID (Hard)	10 POINTS OUT OF 100	50.0% ACCURACY	COMPLETION:	33.3%
Geolocate an individual using cellular tower identification number				

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Nicolas Michel
nicolas.michel@uconn.edu

The National Cyber League
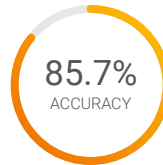A Community Where Cybersecurity Is a Passion

Password Cracking Module

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

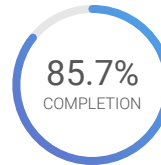**570** TH PLACE OUT OF **6010**
NATIONAL RANK

91 st National Percentile

205 POINTS OUT OF 310
PERFORMANCE SCORE

Average: 108.5 Points

85.7% ACCURACY
Average: 88.9%

85.7% COMPLETION
Average: 48.4%

TOP NICE WORKROLES
Cyber Operator
Exploitation Analyst
Systems Security Analyst
Cyber Defense Incident Responder
Cyber Crime Investigator

Hashing (Easy)
Generate password hashes for MD5, SHA1, and SHA256

15 POINTS OUT OF 15 | **100.0%** ACCURACY | COMPLETION: 100.0%

Cracking 1 (Easy)
Crack MD5 password hashes

30 POINTS OUT OF 30 | **100.0%** ACCURACY | COMPLETION: 100.0%

Cracking 2 (Easy)
Crack Windows NTLM password hashes

30 POINTS OUT OF 30 | **50.0%** ACCURACY | COMPLETION: 100.0%

Cracking 3 (Medium)
Build a wordlist or pattern config to crack password hashes of a known pattern

45 POINTS OUT OF 45 | **100.0%** ACCURACY | COMPLETION: 100.0%

Cracking 4 (Hard)
Build a wordlist to crack passwords not found in common wordlists

40 POINTS OUT OF 145 | **100.0%** ACCURACY | COMPLETION: 57.1%

PDF (Medium)
Crack the password of a PDF document file

**45** POINTS OUT OF 45 | **100.0%** ACCURACY | COMPLETION: 100.0%

Scanning & Reconnaissance Module

Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.
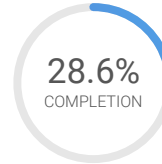
818 TH PLACE OUT OF **6010**
NATIONAL RANK

87th National Percentile

85 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 95.2 Points

100.0% ACCURACY

Average: 62.3%

28.6% COMPLETION
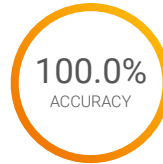
Average: 30.7%

TOP NICE WORKROLES

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

FTP Scan (Easy)

100 POINTS OUT OF 100 | **100.0%** ACCURACY | COMPLETION: **100.0%**

Scan a FTP server to enumerate its contents and possible vulnerabilities

Disclosure (Medium)

-15 POINTS OUT OF 100 | **0.0%** ACCURACY | COMPLETION: **0.0%**

Identify server configuration and enumerate remote web server paths

Castle (Hard)

0 POINTS OUT OF 100 | **0.0%** ACCURACY | COMPLETION: **0.0%**

Scan and analyze the results from a LDAP server

Web Application Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.
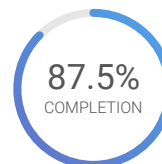
80 TH PLACE OUT OF **6010**
NATIONAL RANK

99th National Percentile

200 POINTS OUT OF 325
PERFORMANCE SCORE

Average: 53.3 Points

77.8% ACCURACY

Average: 52.0%

87.5% COMPLETION
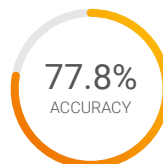
Average: 33.3%

TOP NICE WORKROLES

Cyber Operator
Software Developer
Exploitation Analyst
Systems Security Analyst
Database Administrator

Wordly (Easy)

100 POINTS OUT OF 100 | **80.0%** ACCURACY | COMPLETION: **100.0%**

Exploit a popular game app by analyzing the partial logic in the browser side JavaScript code

Cookie Game (Medium)

100 POINTS OUT OF 100 | **75.0%** ACCURACY | COMPLETION: **100.0%**

Identify and exploit hidden backdoor functionality to gain access to the server

PayMo (Hard)

0 POINTS OUT OF 125 | **0.0%** ACCURACY | COMPLETION: **0.0%**

Exploit a payment processing app for vulnerabilities that would drain user balance