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**CYBER SKYLINE**

The National Cyber League  
A Community Where Cybersecurity Is a Passion

Michael Silva  
msilv204@tamu.edu

# NCL Spring 2022 Individual Game Scouting Report

Dear Michael Silva,

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/67M38UT2WGJU](https://cyberskyline.com/report/67M38UT2WGJU)

**CompTIA** Based on the the performance detailed in this NCL Scouting Report, you have earned **6 hours** of Continuing Education Units (CEUs) as approved by CompTIA. You can learn more about the NCL - CompTIA alignment via [nationalcyberleague.org/comptia](https://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



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## NATIONAL CYBER LEAGUE SCORE CARD

NCL 2022 SPRING INDIVIDUAL GAME

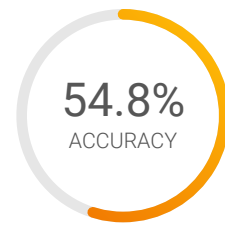
### YOUR TOP CATEGORIES

WEB APPLICATION  
EXPLOITATION  
96TH PERCENTILE

ENUMERATION &  
EXPLOITATION  
96TH PERCENTILE

FORENSICS  
92ND PERCENTILE

NATIONAL RANK  
**728TH PLACE**  
**OUT OF 6010**  
PERCENTILE  
**88TH**



[cyberskyline.com/report/67M38UT2WGJU](https://cyberskyline.com/report/67M38UT2WGJU)

Learn more at [nationalcyberleague.org](https://nationalcyberleague.org) | Get in touch with us via [info@nationalcyberleague.org](mailto:info@nationalcyberleague.org)

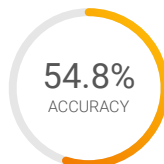


## NCL Spring 2022 Individual Game

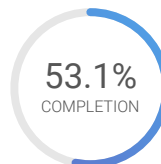
The NCL Individual Game is designed for student players nationwide to compete in realtime in the categories listed below. The Individual Game evaluates the technical cybersecurity skills of the individual, without the assistance of others.

**728<sup>TH</sup>** PLACE  
OUT OF 6010  
NATIONAL RANK

**1115** POINTS  
OUT OF 3000  
PERFORMANCE SCORE



Average: 65.7%



Average: 33.5%

**88<sup>th</sup>** National  
Percentile

Average: 730.1 Points

### Cryptography

**110** POINTS  
OUT OF 345

**70.0%**  
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

**63.6%**  
ACCURACY

COMPLETION: **77.8%**

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

### Forensics

**100** POINTS  
OUT OF 300

**36.4%**  
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

**105** POINTS  
OUT OF 340

**31.8%**  
ACCURACY

COMPLETION: **41.2%**

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

**170** POINTS  
OUT OF 360

**59.1%**  
ACCURACY

COMPLETION: **61.9%**

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

### Open Source Intelligence

**210** POINTS  
OUT OF 300

**72.2%**  
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

**75** POINTS  
OUT OF 310

**60.0%**  
ACCURACY

COMPLETION: **42.9%**

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

### Scanning & Reconnaissance

**25** POINTS  
OUT OF 300

**50.0%**  
ACCURACY

COMPLETION: **21.4%**

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

### Web Application Exploitation

**110** POINTS  
OUT OF 325

**55.6%**  
ACCURACY

COMPLETION: **62.5%**

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

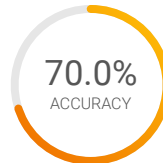
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

**1330** TH PLACE  
OUT OF 6010  
NATIONAL RANK

**110** POINTS  
OUT OF 345  
PERFORMANCE SCORE

**78<sup>th</sup>** National  
Percentile

Average: 111.7 Points



Average: 85.3%



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)

**35** POINTS  
OUT OF 35

**100.0%**  
ACCURACY

COMPLETION: **100.0%**

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)

**0** POINTS  
OUT OF 40

**0.0%**  
ACCURACY

COMPLETION: **0.0%**

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)

**0** POINTS  
OUT OF 35

**0.0%**  
ACCURACY

COMPLETION: **0.0%**

Identify the steganography technique used and extract the hidden data

### Stego 2 (Medium)

**20** POINTS  
OUT OF 40

**100.0%**  
ACCURACY

COMPLETION: **50.0%**

Identify the steganography technique used and extract the hidden data





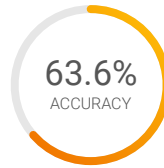
## Enumeration & Exploitation Module

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

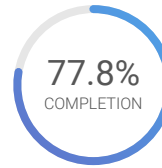
**272** ND PLACE  
OUT OF 6010  
NATIONAL RANK

**210** POINTS  
OUT OF 320  
PERFORMANCE SCORE

Average: 83.8 Points



Average: 60.7%



Average: 36.8%

### TOP NICE WORKROLES

Cyber Operator  
Target Developer  
Exploitation Analyst  
Software Developer  
Systems Security Analyst

**96<sup>th</sup>** National  
Percentile

### 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

**60.0%**  
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%**

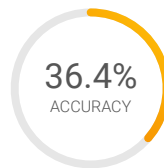
## Forensics Module

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

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

**100** POINTS  
OUT OF 300  
PERFORMANCE SCORE

Average: 70.1 Points



Average: 57.4%



Average: 37.6%

### TOP NICE WORKROLES

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

**92<sup>nd</sup>** National  
Percentile

### Archived (Easy)

Extract hidden metadata information from a tar archive file

**100** POINTS  
OUT OF 100

**44.4%**  
ACCURACY

COMPLETION: **100.0%**

### Puzzle (Medium)

Identify overlapping byte segments to reconstruct a multi-part file

**0** POINTS  
OUT OF 100

**0.0%**  
ACCURACY

COMPLETION: **0.0%**

### Hacker Flyer (Hard)

Extract sensitive data from a Windows memory dump

**0** POINTS  
OUT OF 100

**0.0%**  
ACCURACY

COMPLETION: **0.0%**





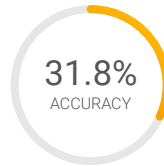
## Log Analysis Module

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

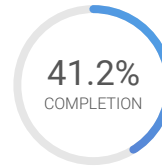
**1015** <sup>TH PLACE</sup>  
OUT OF 6010  
NATIONAL RANK

**105** <sup>POINTS</sup>  
OUT OF 340  
PERFORMANCE SCORE

Average: 122.7 Points



Average: 42.8%



Average: 41.3%

### TOP NICE WORKROLES

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

**84<sup>th</sup>** National  
Percentile

### IIS (Easy)

**50** <sup>POINTS</sup>  
OUT OF 110

**23.1%**  
ACCURACY

COMPLETION: **50.0%**

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

### Devices (Medium)

**55** <sup>POINTS</sup>  
OUT OF 110

**44.4%**  
ACCURACY

COMPLETION: **66.7%**

Analyze an IOT sensors log to identify anomalous behavior

### Email (Hard)

**0** <sup>POINTS</sup>  
OUT OF 120

**0.0%**  
ACCURACY

COMPLETION: **0.0%**

Analyze email logs to identify phishing attempts and suspicious email senders

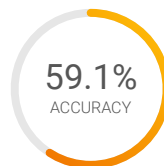
## Network Traffic Analysis Module

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

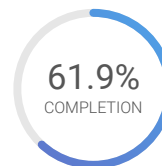
**514** <sup>TH PLACE</sup>  
OUT OF 6010  
NATIONAL RANK

**170** <sup>POINTS</sup>  
OUT OF 360  
PERFORMANCE SCORE

Average: 102.3 Points



Average: 52.5%



Average: 37.5%

### TOP NICE WORKROLES

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

**92<sup>nd</sup>** National  
Percentile

### Transfer (Easy)

**90** <sup>POINTS</sup>  
OUT OF 90

**53.8%**  
ACCURACY

COMPLETION: **100.0%**

Extract sensitive information from a FTP packet capture

### WiFi Cracking (Medium)

**45** <sup>POINTS</sup>  
OUT OF 70

**66.7%**  
ACCURACY

COMPLETION: **80.0%**

Identify vulnerable WiFi encryption scheme and crack the WiFi password

### Kryptonite (Medium)

**35** <sup>POINTS</sup>  
OUT OF 80

**66.7%**  
ACCURACY

COMPLETION: **50.0%**

Decrypt and analyze an intercepted TLS packet capture

### AirKeys (Hard)

**0** <sup>POINTS</sup>  
OUT OF 120

**0.0%**  
ACCURACY

COMPLETION: **0.0%**

Analyze Bluetooth keyboard connection and reconstruct keystrokes to extract credential information





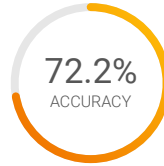
## Open Source Intelligence Module

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

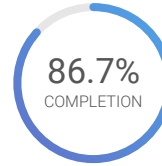
**851** ST PLACE  
OUT OF 6010  
NATIONAL RANK

**210** POINTS  
OUT OF 300  
PERFORMANCE SCORE

Average: 187.7 Points



Average: 71.0%



Average: 77.4%

### TOP NICE WORKROLES

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

**86<sup>th</sup>** National  
Percentile

### Rules of Conduct (Easy)

Introductory challenge on acceptable conduct during NCL

**15** POINTS  
OUT OF 15

**100.0%**  
ACCURACY

COMPLETION: **100.0%**

### Whois (Easy)

Explore whois registration information on IP addresses

**60** POINTS  
OUT OF 60

**100.0%**  
ACCURACY

COMPLETION: **100.0%**

### Filings (Easy)

Identify common regulatory filings required in the cybersecurity industry

**50** POINTS  
OUT OF 50

**75.0%**  
ACCURACY

COMPLETION: **100.0%**

### Tor (Medium)

Identify metadata and affiliation information about Tor relay nodes

**75** POINTS  
OUT OF 75

**75.0%**  
ACCURACY

COMPLETION: **100.0%**

### Caller ID (Hard)

Geolocate an individual using cellular tower identification number

**10** POINTS  
OUT OF 100

**25.0%**  
ACCURACY

COMPLETION: **33.3%**





## Password Cracking Module

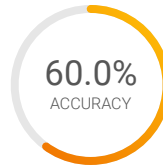
Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

**1472** ND PLACE  
OUT OF 6010  
NATIONAL RANK

**75** POINTS  
OUT OF 310  
PERFORMANCE SCORE

**76<sup>th</sup>** National  
Percentile

Average: 108.5 Points



Average: 88.9%



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

**60.0%**  
ACCURACY

COMPLETION: **100.0%**

### Cracking 2 (Easy)

Crack Windows NTLM password hashes

**30** POINTS  
OUT OF 30

**100.0%**  
ACCURACY

COMPLETION: **100.0%**

### Cracking 3 (Medium)

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

**0** POINTS  
OUT OF 45

**0.0%**  
ACCURACY

COMPLETION: **0.0%**

### Cracking 4 (Hard)

Build a wordlist to crack passwords not found in common wordlists

**0** POINTS  
OUT OF 145

**0.0%**  
ACCURACY

COMPLETION: **0.0%**

### PDF (Medium)

Crack the password of a PDF document file

**0** POINTS  
OUT OF 45

**0.0%**  
ACCURACY

COMPLETION: **0.0%**





## Scanning & Reconnaissance Module

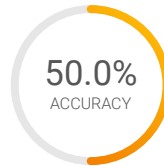
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

**1027<sup>TH</sup>** PLACE  
OUT OF 6010  
NATIONAL RANK

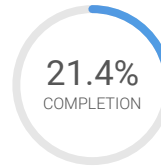
**83<sup>rd</sup>** National  
Percentile

**25** POINTS  
OUT OF 300  
PERFORMANCE SCORE

Average: 95.2 Points



Average: 62.3%



Average: 30.7%

### TOP NICE WORKROLES

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

### FTP Scan (Easy)

Scan a FTP server to enumerate its contents and possible vulnerabilities

**25** POINTS  
OUT OF 100

50.0%  
ACCURACY

COMPLETION: 75.0%

### Disclosure (Medium)

Identify server configuration and enumerate remote web server paths

**0** POINTS  
OUT OF 100

0.0%  
ACCURACY

COMPLETION: 0.0%

### Castle (Hard)

Scan and analyze the results from a LDAP server

**0** POINTS  
OUT OF 100

0.0%  
ACCURACY

COMPLETION: 0.0%

## Web Application Exploitation Module

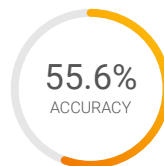
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

**249<sup>TH</sup>** PLACE  
OUT OF 6010  
NATIONAL RANK

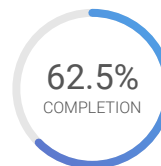
**96<sup>th</sup>** National  
Percentile

**110** POINTS  
OUT OF 325  
PERFORMANCE SCORE

Average: 53.3 Points



Average: 52.0%



Average: 33.3%

### TOP NICE WORKROLES

Cyber Operator  
Software Developer  
Exploitation Analyst  
Systems Security Analyst  
Database Administrator

### Wordly (Easy)

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

**100** POINTS  
OUT OF 100

66.7%  
ACCURACY

COMPLETION: 100.0%

### Cookie Game (Medium)

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

**10** POINTS  
OUT OF 100

33.3%  
ACCURACY

COMPLETION: 33.3%

### PayMo (Hard)

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

**0** POINTS  
OUT OF 125

0.0%  
ACCURACY

COMPLETION: 0.0%

