The National Cyber League
A Community Where Cybersecurity Is a Passion

POWERED BY
CYBER SKYLINE

Nicolas Michel
nicolas.michel@uconn.edu

NCL Spring 2024 Team Game Scouting Report

Dear Nicolas Michel (Team "The Cult of Agron!"),

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/KYYG5J81QGW0

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!
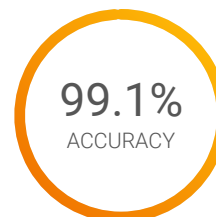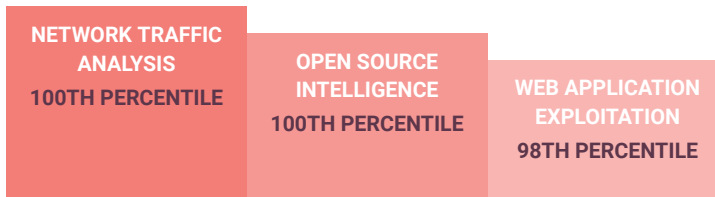
Dr. David Zeichick
NCL Commissioner

NATIONAL CYBER LEAGUE SCORE CARD

NCL SPRING 2024 TEAM GAME

EXPERIENCED STUDENTS RANK

24TH PLACE OUT OF 386

PERCENTILE
94TH

YOUR TOP CATEGORIES

NETWORK TRAFFIC ANALYSIS
100TH PERCENTILE

OPEN SOURCE INTELLIGENCE
100TH PERCENTILE

WEB APPLICATION EXPLOITATION
98TH PERCENTILE

99.1%
ACCURACY

Average: 74.5%

cyberskyline.com/report
ID: KYYG5J81QGW0

Learn more at nationalcyberleague.org

POWERED BY
CYBER SKYLINE

The National Cyber League
A Community Where Cybersecurity Is a Passion

Nicolas Michel
nicolas.michel@uconn.edu

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.

24 TH PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

94th Experienced Students Percentile

2690 POINTS OUT OF 3000
PERFORMANCE SCORE
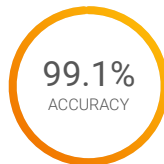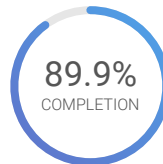
Average: 1821.5 Points

99.1% ACCURACY

Average: 74.5%

89.9% COMPLETION

Average: 64.2%

Cryptography

245 POINTS OUT OF 345

100.0% 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

94.4% 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

300 POINTS OUT OF 300

100.0% ACCURACY

COMPLETION: 100.0%

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

Open Source Intelligence

325 POINTS OUT OF 325

100.0% 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

210 POINTS OUT OF 300

100.0% ACCURACY

COMPLETION: 65.4%

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

Scanning & Reconnaissance

270 POINTS OUT OF 300

100.0% ACCURACY

COMPLETION: 92.9%

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

Web Application Exploitation

315 POINTS OUT OF 315

100.0% ACCURACY

COMPLETION: 100.0%

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

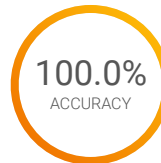Note: Survey module (100 points) was excluded from this report.
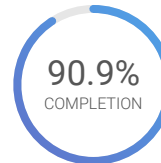
POWERED BY
CYBER SKYLINE

Cryptography Module

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

16TH PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

96th Experienced Students Percentile

245 POINTS OUT OF **345**
PERFORMANCE SCORE

Average: 179.9 Points

100.0% ACCURACY

Average: 81.4%

90.9% COMPLETION

Average: 76.2%

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**

100.0% 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%
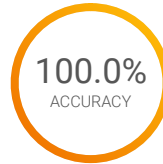
Analyze and decode a message by using frequency analysis

Enumeration & Exploitation Module

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

60 TH PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

85th Experienced Students Percentile

210 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 178.6 Points

100.0% ACCURACY

Average: 81.2%

87.5% COMPLETION

Average: 76.5%

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)

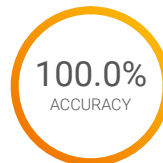**10** POINTS OUT OF 100

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.

14 TH PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

97th Experienced Students Percentile

300 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 200.9 Points

100.0% ACCURACY

Average: 82.7%

100.0% COMPLETION

Average: 74.0%

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
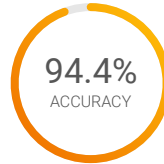
POWERED BY
CYBER SKYLINE

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.

22ND PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

415 POINTS OUT OF 415
PERFORMANCE SCORE

94.4% ACCURACY

100.0% COMPLETION

95th Experienced Students Percentile

Average: 318.5 Points

Average: 61.9%

Average: 79.7%

Secure Shell (Easy)
100 POINTS OUT OF 100   **83.3%** ACCURACY   COMPLETION: **100.0%**

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

NASA Servers (Medium)
145 POINTS OUT OF 145   **100.0%** ACCURACY   COMPLETION: **100.0%**

Analyze a web server log and identify traffic patterns

Employee Access (Hard)
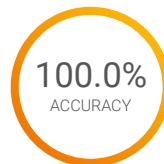**170** POINTS OUT OF 170   **100.0%** ACCURACY   COMPLETION: **100.0%**

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.

2ND PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

300 POINTS OUT OF 300
PERFORMANCE SCORE

100.0% ACCURACY

100.0% COMPLETION

100th 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   **100.0%** ACCURACY   COMPLETION: **100.0%**

Dissect the raw binary of an ARP packet

Kickback (Hard)
100 POINTS OUT OF 100   **100.0%** ACCURACY   COMPLETION: **100.0%**

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

POWERED BY
CYBER SKYLINE

POWERED BY
Cyber Skyline

The National Cyber League
A Community Where Cybersecurity Is a Passion
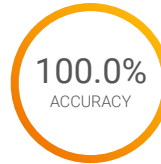
Nicolas Michel
nicolas.michel@uconn.edu

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.

3 RD PLACE
OUT OF **386**
EXPERIENCED STUDENTS RANK

100th Experienced Students Percentile

325 POINTS OUT OF 325
PERFORMANCE SCORE

Average: 288.8 Points

100.0% ACCURACY

Average: 84.6%

100.0% COMPLETION

Average: 93.5%

Rules of Conduct (Easy)

25 POINTS OUT OF 25

100.0% 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
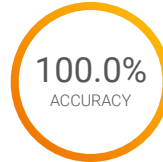
Password Cracking Module

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

45TH PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

89th Experienced Students Percentile

210 POINTS OUT OF **300**
PERFORMANCE SCORE

Average: 161.6 Points

100.0% ACCURACY

Average: 91.3%

65.4% COMPLETION

Average: 49.6%

Hashing (Easy)
30 POINTS OUT OF **30**

Generate password hashes for MD4, MD5, SHA512

100.0% ACCURACY

COMPLETION: 100.0%

Rockyou (Easy)
45 POINTS OUT OF **45**

Crack SHA1 password hashes for password found in the rockyou breach

100.0% ACCURACY

COMPLETION: 100.0%

Defaults (Medium)
60 POINTS OUT OF **100**

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

100.0% ACCURACY

COMPLETION: 60.0%

DOCX (Medium)
45 POINTS OUT OF **45**

Crack the password for a protected Microsoft Word file

100.0% ACCURACY

COMPLETION: 100.0%

Fantasy (Hard)
30 POINTS OUT OF **80**

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

100.0% ACCURACY

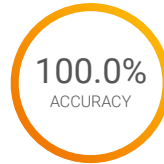COMPLETION: 37.5%

POWERED BY CYBER SKYLINE
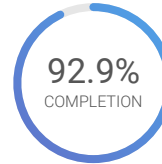
Scanning & Reconnaissance Module

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

54 TH PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

87th Experienced Students Percentile

270 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 205.3 Points

100.0% ACCURACY
Average: 76.4%

92.9% COMPLETION
Average: 69.6%

Blocked (Easy)
70 POINTS OUT OF 100 — **100.0%** ACCURACY — COMPLETION: 80.0%

Conduct reconnaissance on a server by identifying blocked IPs and ports

Scan (Medium)
100 POINTS OUT OF 100 — **100.0%** ACCURACY — COMPLETION: 100.0%

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

Paper (Hard)
100 POINTS OUT OF 100 — **100.0%** ACCURACY — COMPLETION: 100.0%

Conduct reconnaissance on an LDAP server to identify the users within an organization
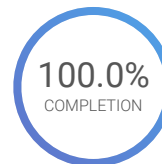
Web Application Exploitation Module

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

8 TH PLACE OUT OF **386**
EXPERIENCED STUDENTS RANK

98th Experienced Students Percentile

315 POINTS OUT OF 315
PERFORMANCE SCORE
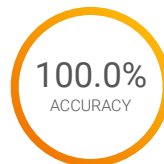
Average: 132.9 Points

100.0% ACCURACY
Average: 65.1%

100.0% COMPLETION
Average: 47.6%

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 — **100.0%** ACCURACY — COMPLETION: 100.0%

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

File Share (Hard)
115 POINTS OUT OF 115 — **100.0%** ACCURACY — COMPLETION: 100.0%

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

POWERED BY CYBER SKYLINE