The National Cyber League
A Community Where Cybersecurity Is a Passion

Hussain Alkatheri
hussain.alkatheri@mavs.uta.edu

NCL Fall 2022 Team Game Scouting Report

Dear Hussain Alkatheri (Team "UTArlington CSEC Mavericks"),

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/T13P7KB1DEPF

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

NATIONAL CYBER LEAGUE SCORE CARD

NCL 2022 FALL TEAM GAME

NATIONAL RANK
129TH PLACE OUT OF 3926

PERCENTILE
97TH

YOUR TOP CATEGORIES

FORENSICS	ENUMERATION & EXPLOITATION	SCANNING & RECONNAISSANCE
100TH PERCENTILE	99TH PERCENTILE	99TH PERCENTILE

47.8% ACCURACY

Average: 49.6%

cyberskyline.com/report
ID: T13P7KB1DEPF

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NCL Fall 2022 Team Game

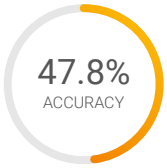
The NCL Team Game is designed for student players nationwide to compete in realtime in the categories listed below. The Team Game promotes camaraderie and evaluates the collective technical cybersecurity skills of the team members.

129 TH PLACE OUT OF 3926
NATIONAL RANK

97th National Percentile

1350 POINTS OUT OF 3000
PERFORMANCE SCORE

Average: 649.5 Points



Average: 49.6%

Average: 28.8%

Cryptography

205 POINTS OUT OF 310

100.0% ACCURACY

COMPLETION: **66.7%**

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

210 POINTS OUT OF 310

50.0% ACCURACY

COMPLETION: **90.0%**

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

Log Analysis

20 POINTS OUT OF 320

9.5% ACCURACY

COMPLETION: **11.8%**

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

160 POINTS OUT OF 370

43.8% ACCURACY

COMPLETION: **66.7%**

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

Open Source Intelligence

170 POINTS OUT OF 315

42.9% ACCURACY

COMPLETION: **75.0%**

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

160 POINTS OUT OF 360

90.9% ACCURACY

COMPLETION: **50.0%**

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

Scanning & Reconnaissance

110 POINTS OUT OF 315

30.0% ACCURACY

COMPLETION: **23.1%**

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.

Hussain Alkatheri
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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.

80 TH PLACE OUT OF 3926
NATIONAL RANK

98th National Percentile

205 POINTS OUT OF 310
PERFORMANCE SCORE

Average: 119.3 Points

100.0%
ACCURACY

Average: 78.6%

66.7%
COMPLETION

Average: 54.1%

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 cipher scheme used and decrypt the data

Decoding 2 (Easy)

20 POINTS OUT OF 20

100.0% ACCURACY

COMPLETION: 100.0%

Identify the cipher scheme used and decrypt the data

Decoding 3 (Easy)

35 POINTS OUT OF 35

100.0% ACCURACY

COMPLETION: 100.0%

Identify the cipher scheme used and decrypt the data

Decoding 4 (Medium)

20 POINTS OUT OF 20

100.0% ACCURACY

COMPLETION: 100.0%

Identify the communication scheme used and decode the message

Decoding 5 (Medium)

0 POINTS OUT OF 55

0.0% ACCURACY

COMPLETION: 0.0%

Identify the cipher scheme used and decrypt the data

Problem (Medium)

0 POINTS OUT OF 50

0.0% ACCURACY

COMPLETION: 0.0%

Identify the steganography technique used and extract the hidden data

Magnetic (Hard)

100 POINTS OUT OF 100

100.0% ACCURACY

COMPLETION: 100.0%

Convert credit card magnetic stripe audio into numeric data

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Enumeration & Exploitation Module

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

54 TH PLACE OUT OF **3926**
NATIONAL RANK

99th National Percentile

115 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 52.0 Points

100.0% ACCURACY

Average: 51.7%

50.0% COMPLETION

Average: 27.7%

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

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.

33 RD PLACE OUT OF **3926**
NATIONAL RANK

100th National Percentile

210 POINTS OUT OF 310
PERFORMANCE SCORE

Average: 106.1 Points

50.0% ACCURACY

Average: 57.8%

90.0% COMPLETION

Average: 26.7%

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

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)

110 POINTS OUT OF 110

47.1% ACCURACY

COMPLETION: 100.0%

Analyze a ZFS pool to extract hidden files and metadata

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Log Analysis Module

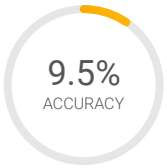
Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

381 ST PLACE OUT OF 3926
NATIONAL RANK

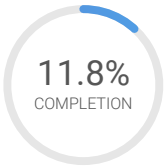
91st National Percentile

20 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)	20 POINTS OUT OF 100	12.5% ACCURACY	COMPLETION: 28.6%
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

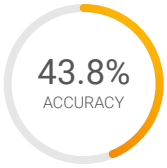
Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

241 ST PLACE OUT OF 3926
NATIONAL RANK

94th National Percentile

160 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)	100 POINTS OUT OF 100	40.9% ACCURACY	COMPLETION: 100.0%
Extract sensitive information transferred in a VPN packet capture			
WiFi Cracking (Medium)	30 POINTS OUT OF 70	60.0% ACCURACY	COMPLETION: 75.0%
Identify vulnerable WiFi encryption scheme and crack the WiFi password			
Kick Back (Medium)	30 POINTS OUT OF 100	66.7% ACCURACY	COMPLETION: 40.0%
Analyze the unencrypted IOT device traffic to extract personal information from a smart home packet capture			
Extraction (Hard)	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%
Identify and extract the hidden RTMP video stream transferred in a comprehensive packet capture			

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Open Source Intelligence Module

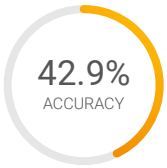
Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

335 TH PLACE OUT OF **3926**
NATIONAL RANK

92nd National Percentile

170 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
100.0% ACCURACY
COMPLETION: 100.0%

Introductory challenge on acceptable conduct during NCL

Defense Acquisition (Easy)

45 POINTS OUT OF 45
60.0% 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)

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

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

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Password Cracking Module

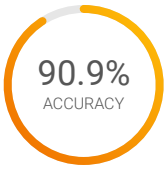
Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

285 TH PLACE OUT OF 3926
NATIONAL RANK

93rd National Percentile

160 POINTS OUT OF 360
PERFORMANCE SCORE

Average: 123.5 Points



Average: 87.0%

Average: 39.5%

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

Cracking 1 (Easy)

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

Crack MD5, SHA1, and SHA256 password hashes

Cracking 2 (Easy)

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

Crack Windows NTLM password hashes using rainbow tables

Cracking 3 (Medium)

60 POINTS OUT OF 60
100.0% ACCURACY
COMPLETION: 100.0%

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

Cracking 4 (Hard)

10 POINTS OUT OF 100
50.0% ACCURACY
COMPLETION: 16.7%

Build a wordlist to crack passwords not found in common wordlists

PPTX (Medium)

0 POINTS OUT OF 50
0.0% ACCURACY
COMPLETION: 0.0%

Crack the password for a protected PowerPoint file

WiFi (Hard)

0 POINTS OUT OF 60
0.0% ACCURACY
COMPLETION: 0.0%

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

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Scanning & Reconnaissance Module

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

78 TH PLACE OUT OF 3926
NATIONAL RANK

99th National Percentile

110 POINTS OUT OF 315
PERFORMANCE SCORE

Average: 33.4 Points

30.0% ACCURACY

Average: 19.0%

23.1% COMPLETION

Average: 9.3%

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

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)

100 POINTS OUT OF 100

100.0% ACCURACY

COMPLETION: 100.0%

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.

142 ND PLACE OUT OF 3926
NATIONAL RANK

97th National Percentile

100 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 59.4 Points

75.0% ACCURACY

Average: 38.0%

50.0% COMPLETION

Average: 29.5%

TOP NICE WORKROLES
Cyber Operator
Software Developer
Exploitation Analyst
Systems Security Analyst
Database Administrator

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