



NCL Spring 2021 Individual Game Scouting Report

Dear Vraj Shah,

Congratulations on a great NCL 2021 Spring Individual Game!

National Cyber League (NCL)

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. The NCL is a next-generation learning and gaming environment using high-fidelity and scenario-based challenges from Cyber Skyline. The challenges are designed around industry recognized and performance-based exam objectives to further develop student skills. If you have any questions regarding the information in this report please inquire at info@nationalcyberleague.org.

NCL 2021 Spring Season

The NCL 2021 Spring Season was designed to develop and validate player knowledge and skills in preparation for further learning, career readiness, industry certifications, and other cybersecurity competitions. The games were designed around performance-based exam objectives of CompTIA certifications and the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework published by the National Institute of Standards and Technology (NIST).

The NCL 2021 Spring Season began with the Preseason round to group players into one of three competition brackets based on skill level: Gold (top 15% of all players nationally - 629 players), Silver (the next 35% of all players nationally - 1456 players) or Bronze (the next 50% of all players nationally - 2094 players). Players who did not participate in the Preseason were not bracketed or ranked. This made the Individual Game more engaging by grouping players with similar knowledge and skill levels together. At the beginning of the NCL 2021 Spring Season, 6380 students/players and 425 faculty/coaches from more than 520 two- and four-year schools across all 50 U.S. states registered to play.

The Individual Game Capture the Flag (CTF) event took place from March 26 through March 28. The Team Game CTF event took place from April 9 through April 11. The games were conducted in real-time for students across the country.

The NCL 2021 Spring Season was powered by Cyber Skyline's cloud-based skills evaluation platform. Cyber Skyline hosted the scenario-driven cybersecurity challenges for all players to compete and track their progress in real-time.



To validate this report, please access: cyberskyline.com/report/OUWPC173JHA4

CompTIA Based on the the performance detailed in this Scouting Report, Vraj Shah has earned **4 hours** of Continuing Education Units (CEUs) as approved by CompTIA. You can learn more about the NCL - CompTIA alignment via nationalcyberleague.org/comptia

Thank you for your participation in the NCL 2021 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!

Dr. Dan Manson
NCL Commissioner





NCL Scouting Report

What follows is a customized NCL Scouting Report of your performance in the NCL 2021 Spring Individual Game. We hope you find it to be valuable in both confirming your skills and identifying areas for improvement. In addition, the NCL Scouting Report can be used as part of any job application, as it provides an external validation of skills as demonstrated in competitive gameplay based on industry-recognized certification exam and framework objectives.

The following definitions apply to your performance across a range of cybersecurity scenarios

- **National Rank:** overall place with respect to all players, across all Brackets
- **Bracket Rank:** overall place within the Bracket
- **Performance Score:** total points earned; the higher the score, the higher the ranking
- **Accuracy:** percentage of flag submissions that were correct (total flag captures divided by total flag attempts).
- **Completion:** percentage of possible flags submitted (total flag captures divided by total possible flags).

The following are the categories of cybersecurity scenarios that you were evaluated against:

1. **Cryptography**
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.
2. **Enumeration & Exploitation**
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.
3. **Forensics**
Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.
4. **Log Analysis**
Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.
5. **Network Traffic Analysis**
Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.
6. **Open Source Intelligence**
Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.
7. **Password Cracking**
Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.
8. **Scanning & Reconnaissance**
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.
9. **Web Application Exploitation**
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

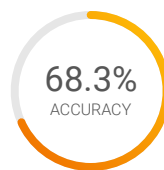
NCL Spring 2021 Preseason

236 TH PLACE
OUT OF 5794
NATIONAL RANK

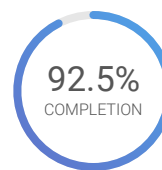
96th
National Percentile

1475 POINTS
OUT OF 1785
PERFORMANCE SCORE

Averages
National: 615.1



National: 71.2%



National: 48.5%

Based on Preseason performance, **Vraj Shah** was placed into the **Gold Bracket** for the Individual Game.





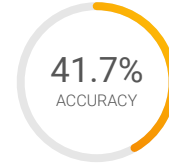
NCL Spring 2021 Individual Game

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.

303 RD PLACE
OUT OF 4180
NATIONAL RANK

264 TH PLACE
OUT OF 628
GOLD BRACKET RANK

1405 POINTS
OUT OF 3000
PERFORMANCE SCORE



93rd
National Percentile

58th
Gold Bracket Percentile

Averages
National: 607.9
Gold Bracket: 1352.6

National: 66.1%
Gold Bracket: 70.5%

National: 26.3%
Gold Bracket: 54.4%

Cryptography

160 POINTS
OUT OF 325

90.0%
ACCURACY

COMPLETION: **60.0%**

Enumeration & Exploitation

30 POINTS
OUT OF 300

14.3%
ACCURACY

COMPLETION: **14.3%**

Forensics

125 POINTS
OUT OF 310

23.1%
ACCURACY

COMPLETION: **33.3%**

Log Analysis

175 POINTS
OUT OF 360

25.9%
ACCURACY

COMPLETION: **51.9%**

Network Traffic Analysis

270 POINTS
OUT OF 365

50.0%
ACCURACY

COMPLETION: **90.0%**

Open Source Intelligence

235 POINTS
OUT OF 300

37.8%
ACCURACY

COMPLETION: **85.0%**

Password Cracking

250 POINTS
OUT OF 310

91.3%
ACCURACY

COMPLETION: **91.3%**

Scanning & Reconnaissance

50 POINTS
OUT OF 300

100.0%
ACCURACY

COMPLETION: **27.3%**

Web Application Exploitation

10 POINTS
OUT OF 330

18.2%
ACCURACY

COMPLETION: **16.7%**

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





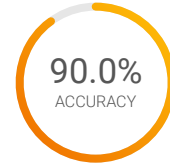
Cryptography Module

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

551 ST PLACE
OUT OF 4180
NATIONAL RANK

316 TH PLACE
OUT OF 628
GOLD BRACKET RANK

160 POINTS
OUT OF 325
PERFORMANCE SCORE



87th
National Percentile

50th
Gold Bracket Percentile

Averages
National: 122.0
Gold Bracket: 168.6

National: 80.8%
Gold Bracket: 87.1%

National: 48.1%
Gold Bracket: 61.9%

Decoding 1 (Easy)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 2 (Easy)	20 POINTS OUT OF 20	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 3 (Easy)	20 POINTS OUT OF 20	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 4 (Medium)	20 POINTS OUT OF 20	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 5 (Hard)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Puzzle (Easy)	40 POINTS OUT OF 40	100.0% ACCURACY	COMPLETION: 100.0%
Hidden (Medium)	0 POINTS OUT OF 50	0.0% ACCURACY	COMPLETION: 0.0%
Bubba (Medium)	0 POINTS OUT OF 50	0.0% ACCURACY	COMPLETION: 0.0%
Unknown (Hard)	0 POINTS OUT OF 65	0.0% ACCURACY	COMPLETION: 0.0%





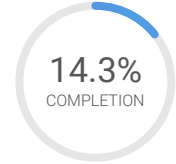
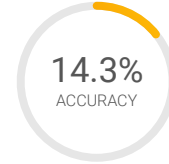
Enumeration & Exploitation Module

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

756 TH PLACE
OUT OF 4180
NATIONAL RANK

431 ST PLACE
OUT OF 628
GOLD BRACKET RANK

30 POINTS
OUT OF 300
PERFORMANCE SCORE



82nd
National Percentile

32nd
Gold Bracket Percentile

Averages
National: 41.6
Gold Bracket: 96.8

National: 42.9%
Gold Bracket: 68.4%

National: 18.2%
Gold Bracket: 39.6%

Open Up (Easy)

10 POINTS
OUT OF 100

8.3%
ACCURACY

COMPLETION: **16.7%**

Popping Boxes (Medium)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Trash Compactor (Hard)

20 POINTS
OUT OF 100

50.0%
ACCURACY

COMPLETION: **25.0%**

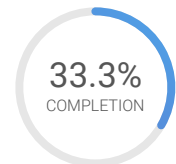
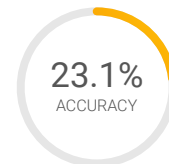
Forensics Module

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

429 TH PLACE
OUT OF 4180
NATIONAL RANK

299 TH PLACE
OUT OF 628
GOLD BRACKET RANK

125 POINTS
OUT OF 310
PERFORMANCE SCORE



90th
National Percentile

53rd
Gold Bracket Percentile

Averages
National: 72.6
Gold Bracket: 135.8

National: 39.5%
Gold Bracket: 49.4%

National: 22.7%
Gold Bracket: 40.3%

Excellent Tracking (Easy)

25 POINTS
OUT OF 75

28.6%
ACCURACY

COMPLETION: **50.0%**

Image File (Medium)

100 POINTS
OUT OF 100

80.0%
ACCURACY

COMPLETION: **100.0%**

Sessions (Hard)

0 POINTS
OUT OF 135

0.0%
ACCURACY

COMPLETION: **0.0%**





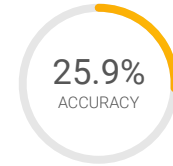
Log Analysis Module

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

505 TH PLACE
OUT OF 4180
NATIONAL RANK

369 TH PLACE
OUT OF 628
GOLD BRACKET RANK

175 POINTS
OUT OF 360
PERFORMANCE SCORE



88th
National Percentile

42nd
Gold Bracket Percentile

Averages
National: 93.6
Gold Bracket: 205.6

National: 57.5%
Gold Bracket: 59.6%

National: 29.3%
Gold Bracket: 60.5%

AWS Route 53 (Easy)

50 POINTS
OUT OF 100

14.8%
ACCURACY

COMPLETION: **57.1%**

Pacman (Medium)

55 POINTS
OUT OF 110

31.3%
ACCURACY

COMPLETION: **55.6%**

Mobile (Hard)

70 POINTS
OUT OF 150

45.5%
ACCURACY

COMPLETION: **45.5%**

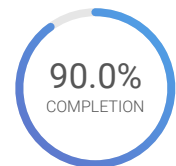
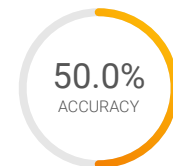
Network Traffic Analysis Module

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

141 ST PLACE
OUT OF 4180
NATIONAL RANK

111 TH PLACE
OUT OF 628
GOLD BRACKET RANK

270 POINTS
OUT OF 365
PERFORMANCE SCORE



97th
National Percentile

83rd
Gold Bracket Percentile

Averages
National: 95.0
Gold Bracket: 179.1

National: 57.9%
Gold Bracket: 70.0%

National: 36.0%
Gold Bracket: 63.1%

Checksum (Easy)

55 POINTS
OUT OF 55

71.4%
ACCURACY

COMPLETION: **100.0%**

Cracking (Medium)

40 POINTS
OUT OF 70

100.0%
ACCURACY

COMPLETION: **80.0%**

WPAD (Medium)

115 POINTS
OUT OF 115

36.8%
ACCURACY

COMPLETION: **100.0%**

Encrypted (Hard)

60 POINTS
OUT OF 125

33.3%
ACCURACY

COMPLETION: **66.7%**





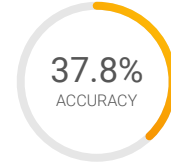
Open Source Intelligence Module

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

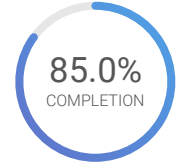
344 TH PLACE
OUT OF 4180
NATIONAL RANK

230 TH PLACE
OUT OF 628
GOLD BRACKET RANK

235 POINTS
OUT OF 300
PERFORMANCE SCORE



National: 73.4%
Gold Bracket: 73.6%



National: 53.7%
Gold Bracket: 73.0%

92nd
National Percentile

64th
Gold Bracket Percentile

Averages
National: 115.4
Gold Bracket: 184.7

Challenge	Points	Accuracy	Completion
Rules of Conduct (Easy)	15 / 15	100.0%	100.0%
Breached Passwords (Easy)	50 / 50	83.3%	100.0%
Database Lookup (Medium)	50 / 65	20.0%	85.7%
Covered QR (Medium)	20 / 70	50.0%	50.0%
Fake Profile (Hard)	100 / 100	50.0%	100.0%





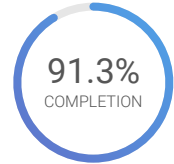
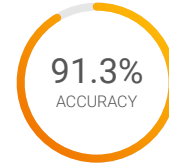
Password Cracking Module

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

325 TH PLACE
OUT OF 4180
NATIONAL RANK

236 TH PLACE
OUT OF 628
GOLD BRACKET RANK

250 POINTS
OUT OF 310
PERFORMANCE SCORE



93rd
National Percentile

63rd
Gold Bracket Percentile

Averages
National: 110.5
Gold Bracket: 205.6

National: 89.0%
Gold Bracket: 93.6%

National: 45.3%
Gold Bracket: 75.7%

Task	Points Out of	Accuracy	Completion
Hashing (Easy)	15	100.0%	100.0%
Cracking 1 (Easy)	30	100.0%	100.0%
Cracking 2 (Easy)	45	75.0%	100.0%
Cracking 3 (Medium)	45	75.0%	100.0%
Cracking 4 (Hard)	45	100.0%	100.0%
Cracking 5 (Hard)	40	100.0%	66.7%
Zip (Medium)	30	100.0%	100.0%

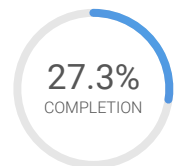
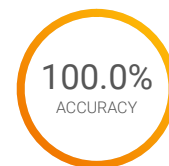
Scanning & Reconnaissance Module

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

442 ND PLACE
OUT OF 4180
NATIONAL RANK

308 TH PLACE
OUT OF 628
GOLD BRACKET RANK

50 POINTS
OUT OF 300
PERFORMANCE SCORE



90th
National Percentile

51st
Gold Bracket Percentile

Averages
National: 50.6
Gold Bracket: 77.8

National: 66.8%
Gold Bracket: 76.2%

National: 24.4%
Gold Bracket: 35.7%

Task	Points Out of	Accuracy	Completion
Hidden Treasure (Easy)	50	100.0%	60.0%
TeamSpeak (Medium)	0	0.0%	0.0%
Router (Hard)	0	0.0%	0.0%





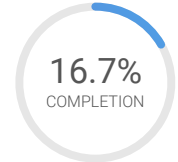
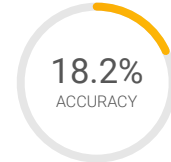
Web Application Exploitation Module

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

1194 TH PLACE
OUT OF 4180
NATIONAL RANK

462 ND PLACE
OUT OF 628
GOLD BRACKET RANK

10 POINTS
OUT OF 330
PERFORMANCE SCORE



72nd
National Percentile

27th
Gold Bracket Percentile

Averages
National: 54.2
Gold Bracket: 102.8

Doge Community (Easy)

-10 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Infosec Blog (Medium)

20 POINTS
OUT OF 110

25.0%
ACCURACY

COMPLETION: **40.0%**

Hacker Login (Hard)

0 POINTS
OUT OF 120

0.0%
ACCURACY

COMPLETION: **0.0%**

